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A TBA Trainer's Kit

Part 1

Key Concepts in Training

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Introduction

The traditional birth attendant (TBA) plays a very vital role in village health care. In the developing countries, sixty to eighty per cent of childbirths are conducted by TBAs, and every year they provide midwifery care to 75 million mothers (and their newborn infants) since every day about 200,000 women are delivered by them. Communities in parts of the world where TBAs abound recognise them as important and helpful persons, and they have gained the respect and confidence of the women they serve. Because of their influence and intimate relationship with the people, the TBAs can provide a perfect link between health personnel, including community/village health care workers and the community itself. For the proper articulation* of TBAs into the formal health care system, they must be given both training and supervision. It has been shown that with some guidance and training, TBAs can do much to assist effectively in safe child delivery and in the prevention of infections.

The training of TBAs is not easy because many of them have had little or no basic education and they may have difficulty in comprehending abstract concepts and pictures that are used in many training programmes. In fact, all their skills were learned during an apprenticeship with relatives or friends from trial and error during first-hand experience. TBAs can, however, learn new concepts, techniques and skills if these are presented in a simplified and appropriate way and are orientated towards specific tasks or activities.

A very simple technology of communication is needed for the training of TBAs. Literacy helps in learning, but the majority of TBAs in many developing countries are illiterate even though they may have a few decades of experience in the practice of midwifery. What they require is simple and appropriate technology because the simpler the equipment and procedure, the more useful they are to them. It often happens that what an expert considers to be simple and essential instruments for them are not accepted or used, because the TBAs find these 'modern' tools cumbersome, uncomfortable or difficult and are reluctant even to carry them, as compared with their traditional equipment.

The general aim of the Kit is to offer ways of developing a systematic training plan to the trainers of traditional birth attendants so that the tasks and activities performed by TBAs could be improved. Using this Kit, TBA Trainers should be able to help TBAs to:

- detect the common health and health-related problems relating to pregnancy, childbirth and infancy.
- do safe and effective ways to prevent conditions which are detrimental to the life and health of pregnant women and infants.
- look after women during pregnancy and childbirth, as well as infants who have health problems or are at risk and make referrals.
- provide health information concerning mothers and infants to the communities they serve.

This TBA Trainer's Kit describes various simple methods, ideas and views and a number of audio-visual aids that could be utilised in most places. Selection of which visual aids or forms of communication will be most helpful can best be gauged by the trainer.

The Trainer's Kit contains a wide selection from which trainers could choose – some directly and others with adaptation to local requirements.

Before they can teach the TBAs, trainers themselves should become fully experienced with the described methods. They should also assess the TBA trainees' knowledge, attitudes and practices and, where necessary, adapt the training course to suit TBAs' needs.

The villagers (especially their chiefs, leaders or elders) should be involved in the planning of the training course and should be informed of the course's broad contents. As many members of the community as possible should be invited at the time the certificates are awarded to the TBAs after their training course.

* *'Articulation'* according to Webster's Dictionary of Synonym, 'implies organisation in which each part fits into another in a manner comparable to the fitting into each other of two bones at a movable joint and a structure so built that it functions as a whole yet without loss of flexibility or distinctness in any of its component units or without any conflict between them'.

After the period of training, the TBAs must be supported with regular and well-organised supervision and other assistance so that the objectives of the training programme can be realised. Some organisation is also required to ensure that technical and supply support is provided to the TBAs, including a sound system of referral for high-risk patients. Experience has shown that a shorter duration of training leads to better transformation of knowledge and skills and that smaller groups for training do better than large ones.

It is **NOT INTENDED** that a trainer uses all the materials, but rather that she selects those parts that best fit her own situation, and that she adds material that she has created herself.

It is important that the evaluation section is completed so that in time everyone will learn from the experience of colleagues in other situations.

Using the TBA Trainer's Kit

The most important thing for anyone who is reading through the kit to remember is that

IT IS A COLLECTION OF SUGGESTIONS

which may help a Trainer to plan a training programme for TBAs. It is based on content that has already been shown to be successful in the field.

Some of the possible ways of using the kit are:

1 **In adapting an existing programme** by
   - Using the list of objectives to check the content currently being taught
   - Including some of the learning resources
   - Adopting the style of teaching with its emphasis on learner activity and safe practice suggested by the narrative section of the kit
   - Incorporating some of the suggestions for literacy training

2 **In constructing a new programme** by
   - Using the list of objectives as a framework
   - Following the suggested lesson plans
   - Including some of the learning resources

The decision about how the kit is actually used must depend upon the learners, the trainer and the situation.

Aims

1 To describe in detail the content, and perhaps more importantly, the style of teaching that has proved useful in the training of TBAs.

2 To indicate some of the issues that need to be explored if the role of some TBAs is to be expanded into that of a more general health worker.

Contents

1 Introduction to the Teaching of Existing TBAs to Improve their Safety

Overall Aims of the Programme

The aims of the teaching may vary in emphasis in different countries according to local situations and problems, but the overall aims are likely to be much the same and may be summarised as:

1 Increased safety in the TBAs' practice

2 Increased referral of mothers and babies who are 'At Risk'

3 Acceptance of some additional areas of health responsibility

4 Increased co-operation between TBAs and local health staff including acceptance of continuing teaching/ guidance by the local midwife.

As a Result of the Teaching, the TBAs should be expected to:

1 **Provide Safe Deliveries by:**

- 1.1 Accepting a responsibility for seeing that the expectant mother has ante-natal care and advice, including routine checks and anti-tetanus injections by the midwife.
- 1.2 Accepting her own limitations, making timely referrals and acting correctly in emergencies until help is available.
- 1.3 Improved cleanliness of hands and nails and adequate hand washing before delivery.
- 1.4 Adequate boiling of all equipment used.
- 1.5 Refraining from external pushing and internal interference.
- 1.6 Safe care of the cord.

2 **Encourage Improved Child Care by:**

- 2.1 Aiding the establishment and continuance of breast feeding.
- 2.2 Keeping a watch for early signs of malnutrition, and encouraging adequate nutrition for the young by the timely addition of solids.
- 2.3 Spotting signs of dehydration and providing the appropriate teaching for the prevention of diarrhoea, and its treatment with rehydration mixture.
- 2.4 Accepting a responsibility to encourage the take-up of any available immunisations.

3 **Encourage Improved Family Health and Well-being by:**

- 3.1 The ability to explain the possibilities of planned families and to refer families for expert advice where required.
- 3.2 Willingness to accept a responsibility for the encouragement of family spacing, stressing the need to practise some contraceptive method continuously, until another pregnancy is desired.
- 3.3 Willingness to set an example in the practice of the rules for healthy living through personal and communal hygiene and wise nutrition.
- 3.4 Guidance to prevent accidents, control infection and provide immediate First Aid and simple home-nursing advice when no one more competent is available.

4 **Accept the Continued Teaching/ Guidance of the Midwife Responsible for the Area**

Organisation of the Programme

Experience has shown that a successful teaching programme, i.e. one which changes the service provided for the better, is very dependent upon right beginnings. It is important that before any training begins, all levels of health staff, the local people and TBAs, and the local government should understand fully and **agree** to what is proposed, and accept the implications. Time taken to gain full co-operation is amply repaid. It is necessary to make clear that the method of 'payment' of the TBAs either will **or** will not be affected by the training. The exact responsibilities of different groups for providing articles necessary for the teaching should also be discussed in advance.

Wherever possible the **midwife** responsible for an area should **teach her own TBAs** in the area in which they live. This has the great advantage that the teacher is also the TBAs' next

line of referral, and it is she who will be in contact with the TBA after the actual training programme to give support and advice (i.e. continuing supervision and teaching). Since the TBA is an independent worker, a team concept based on mutual acceptance rather than authority should be built up. The aim is for the midwife and the TBAs in her area to provide jointly a safe service acceptable to the village community.

It is important that the group of TBAs being taught should be kept small and intimate, but experience has shown that all the TBAs in an area should be included rather than picking out those who will respond most readily. The bigoted or least intelligent need the most help, and those performing few deliveries may be more dangerous than those doing many. All TBAs will not reach the same level of competence, but everyone will learn something, and a standard of safety that all have been exposed to will have been set.

Place and Preparation for the Sessions

Generally, the less distance the TBAs have to walk to the sessions, the more likely they are to attend regularly. Teaching on home ground also allows the community served by the particular group of TBAs being taught, to join in the programme.

The actual place chosen for the teaching must be large enough to provide floor space for the group to sit and should allow for the utmost informality. Hospital or large health centre premises are not generally suitable for this purpose since they are too unlike the situation in which the TBA lives and works. Where there is a small health centre this may be the place of choice, but a space in a large village house or part of a building belonging to the village community, temple, or local government may be quite satisfactory.

What is needed

- Floor space, and local matting or equivalent for the group to sit on; also enough space to divide the group up, and move about in is an advantage.
- Water storage, and a place suitable for handwashing similar to the local village facilities.
- A place suitable for lighting fires to practise sterilisation by boiling — if the local area uses kerosene exclusively, space for oil stoves.
- Some area of privacy where an ante-natal mother can be examined (this may have to be contrived).

Suggested Basic Material to be Collected or Made by the Teacher before the First Session

1 Lydia pictures

2 Ilfra doll in uterus/ bag

3 Something to simulate the delivery area, in keeping with local customs and availability, e.g. extra mat, charpoy

4 Something to act as protection for delivery area

5 Pot suitable for boiling equipment

6 Bricks or stones to support pot over fire

7 Lifters to be used with pot

8 Normal household equipment used by TBAs at a delivery, e.g.
- cleaning material for delivery area.
- washing equipment for mother.
- utensils for bathing baby.
- vessel to serve as bed-pan.
- container or cloth for placenta.
- vessel for giving fluid, etc.

9 Pieces of cloth of various sizes to be used for:
- cleaning baby's airway, swabbing, etc.
- wrapping up the baby.
- covering the mother in simulated delivery.
- changing the mother after simulated delivery.

10 Tape measure

11 Needle and thread and safety pins

12 Equipment for making rehydration mixture and visual aids for teaching its importance

13 Arm band to measure nutritional status of 1 — 5 year olds.

14 Nail cutter

15 Personal handwashing equipment, including local materials, as used by TBAs.

16 Firewood — OR — Oil stove and kerosene (whichever is local norm).

NB Soap and firewood or kerosene need to be provided for the sessions by an outside source, either government or individual. All are too expensive, even if of village variety, for the teacher or TBAs to provide them as required throughout the training. It is essential for these to be made available in adequate quantity, otherwise the routine practice of handwashing and sterilizing-by-boiling at each session may be omitted to save money.

At different times the trainer or TBAs may need to add to the basic equipment. This will be especially true in relation to the discussion of nutritional needs. Only locally available foods should be discussed and the actual foods used in preference to pictures.

Trainers may evolve their own additional teaching aids to help the TBAs improve their service to the community.

It is well to remember that when teaching non-literates, the material used should be as simple as possible and that doing something developed from an existing activity is easier than learning a completely new skill.

Material the TBA should be expected to provide for the Sessions

1 The equipment she normally uses for delivery. (This may well alter as the sessions progress).

2 Any drugs she uses before, during or after delivery.

3 A piece of protective material (e.g. clean paper, plastic, cloth, banana leaves) to receive equipment.

4 Hand scrubber, sliver of twig or bamboo or other nail cleaner, nail cutter if available (a piece of soap should be included with this equipment but should be reserved for actual deliveries; extra communal soap should be provided for the TBAs to practise the special pre-delivery hand-washing technique).

5 Several pieces of clean cloth to dry hands.

At different sessions, the TBAs will be expected to bring additional material relevant to the class, e.g. certain foods for teaching mothers about good nutrition.

Teaching Considerations and Organization of Classes

1 All teaching should be informal, in relation to setting, relationships, and presentation and practice of content. Informality must be in keeping with the culture pattern.

2 All equipment used and methods taught must equate with the TBAs' normal situation of work.

3 All teaching should be seen as a two-way process — the safety teaching must be based on the existing ideas and experiences expressed by the TBAs. Plenty of time should be allowed for TBAs to describe and demonstrate what they do — skilful questioning and suggestions from the teacher can form the base for helping the TBA to safer practice.

4 Rote learning has a place so long as all portions of the learning can be expressed in the TBA's own words and, where applicable, demonstrated within her ability.

5 'Classes' should be structured to repeat and repeat, care being taken not to allow boredom of teacher or taught.

6 Nothing should ever be 'pretended' in performing a process, in order to save time or because that element is thought to have been mastered. The skill must always be practised in class as it has to be performed in the actual situation, e.g. if in actual use something is require sterile, it must be boiled there and then before being used in the class.

7 Let the 'strong' help the 'weak' by TBAs teaching and learning in pairs once knowledge or skill has been initially discussed/demonstrated.

8 Learning units should be of short duration and be arranged to provide different sequences of activity. Drinking tea, chewing betel leaf, etc. should be allowed to punctuate the class time naturally, so as to fit in with the TBAs' short spans of attention.

9 Each class is probably best following the same overall pattern, with a little new material added each time —

repetition is of the utmost importance, but this must never be allowed to make the class dull.

First, the subject should be discussed from the TBAs' point of view:

"What do you do?"
Each TBA should be given a chance to reply.

Pros and cons should be discussed, led by the teacher — then a right course of action should be decided upon after reasons have been explained. This right course of action should then, if possible, be practised in class, being first demonstrated correctly by the midwife; or a TBA may be asked to show how she does it (critical remarks from other TBAs may follow — care must be taken to keep the atmosphere light). All TBAs should then try — if necessary, there can be a re-demonstration. Enough time for practice must be allowed, but not enough for the class to lose interest.

10 Next class, the skill must again be practised, and if necessary re-taught, either by the midwife or an accomplished TBA. With guidance, TBAs teach and learn from each other very well and enjoy it. Where appropriate, the TBA should teach an ante-natal or post-natal mother the skill she has acquired. The presence of interested villagers at the sessions is to be encouraged.

2 Trainer Preparation

As has already been noted in the introduction, there are many advantages when the actual teaching of the TBAs is undertaken by the midwives responsible for the area in which the TBAs live and work. This results in a very much improved relationship. It also allows for the natural continuation of the teaching, through support, after the initial training period is over. Experience has shown that the local midwives make very capable and acceptable trainers of TBAs.

To be successful, all trainers of TBAs need either to have been prepared specifically (i.e. on a training of trainers course) or to undertake and devote time to self-study of the contents of this kit.

The length of time required for this preparation stage will vary according to the local situation and consideration of the following:

- availability of local midwives to attend a trainers' course.
- existence of prepared trainers to plan a training of trainers course.
- support and resources available from health authorities for the conduct of the course.
- time given for local midwives to undertake self-study of the contents of this trainers' kit.

It is preferable to have a trainers' course rather than self-study only, since discussions, role plays, simulation, games etc can be demonstrated more effectively, and dialogues between trainers enhance the practical consideration of problems in communication and understanding.

Practical demonstrations, involving a group of TBAs as a practice class for the would-be trainers learning the processes of methodology described in the kit, should play an essential part in a trainers' course.

The place chosen for this training programme should ideally be a rural set-up, where the classes to be demonstrated can mimic those that will later be given by midwives to their own TBAs. If, for reasons of accommodation, this is not possible, then the area chosen must be made to simulate rural conditions, i.e. there must be somewhere to make a fire for boiling the pot of things used by the TBA for delivery, space for hand washing as practised in the village, and enough floor space to conduct the class, sitting according to local tradition.

Experience has shown that 80 – 120 hours should be adequate for the trainers' course.

The first phase of the course should be a 'refresher' period, reviewing the participants' practices as midwives. It should also incorporate an overall explanation of the TBA training programme.

Ways of creating an informal, non-threatening atmosphere, by using special methods of teaching that will help the TBAs to learn willingly, should be discussed, and then practised through role-play. These methods will also foster the all-important good relationship between the midwife and her TBAs.

Each would-be trainer should make the Ilfra doll and bag, and an arm measuring band; also copy or be supplied with the Lydia pictures. They will need to use this equipment during the rest of the training period, and afterwards in their own areas.

The second phase of the course should cover the main content and methodology of teaching, using the group of TBAs selected for the purpose. Since these midwives and the TBAs will not all know each other, some introduction will be necessary. This can be done in a variety of ways. The game 'Introduce Your Neighbour' might be a method of choice. (TBAs and midwives should be paired and everyone given 5 or 10 minutes for both partners to get to know as much as possible about each other. All then come together and each person in turn introduces her partner). At the end of this game there is generally an atmosphere of good feeling, providing a basis for a trusting and sharing type of teaching. It is helpful at this point to divide the midwives and TBAs into small groups for practice teaching, beginning with handwashing. The technique should have already been discussed and practised with the midwives. The use of the small groups encourages the development of constructive relations between the midwives and TBAs through feelings of belonging.

It is advisable to alternate a full session with the TBAs present, with another providing an opportunity for the midwives and the 'trainer of the trainers' to discuss any points arising. This session should also be used to prepare for the next class with the TBAs. Throughout this second

phase of the course, the TBAs should not only demonstrate the content that the midwives will be expected to practise in their own areas, but also ways of creating the right atmosphere for successful learning. In the time available it will not be possible to demonstrate in detail each class that the TBAs will need but the major areas should all be covered. Most importantly, the pattern of every class beginning with hand washing, the constant need for repetition, and the importance of never pretending, must be given a central place, as must sterilising equipment.

Towards the end of the course there should be a specific discussion on team work and the ways in which the TBA and the midwife can help and complement each other in their daily work and the relationships with other village health workers. The attitudes underlying successful team work should, however, be demonstrated throughout the entire course.

NB The TBAs used for 'training the trainers' will need much teaching after this introduction.

On completion of the training, each midwife should be ready to teach TBAs. How this teaching is organized will depend on local circumstances, but one day a week over a period of at least six months, fixing the day and time to suit the TBAs, is recommended. Beginning with three consecutive days has been found popular and appears to work well. The teaching should always be in a place easily accessible to the TBAs.

At what level a 'trainer of trainers' programme begins will depend on local circumstances. The TBA training scheme may well first be tried out in a practice area, in which case the initiator can first teach the methodology directly to those who are to teach the TBAs.

3 Care of the Hands

One of the easiest ways of bringing about a big improvement in the TBAs' practice is to instil in them the practice of conscientious handwashing just before delivery, and of making a sustained effort between deliveries to keep the hands in as good condition as possible. Experience has shown that even those who work daily in the fields can, with care, have acceptably clean hands at a delivery. Therefore, there is a strong case for each class to begin with handwashing.

Technique of Teaching Handwashing

Steps

1 Each class could begin with the trainer and TBAs sitting in a circle to consider the cleanliness of their hands and how they can best be kept safe for delivery.

2 The trainer should make it clear that she knows how difficult it is for people who work regularly in the fields to keep their hands and nails free from ingrained dirt; those who are at home or have other employment have a rather easier task.

Experience has shown that with encouragement, as the classes continue, even those who work permanently in the fields can develop hands and nails acceptable for a delivery. This group in particular should be urged to take good care at the end of each day to scrub out all dirt and to be especially particular when they know that a delivery is imminent.

While looking at the hands, and noting improvements as the sessions progress, the trainer should make factual, non-condemnatory statements such as "You'll need to scrub well down the sides of the nail where it joins the skin – that's where the dirt gets stuck. Try using your bit of stick to clean the ridges." The task should be presented as a joint one – everyone helping everyone else to be successful, the trainer helping those with the most difficult hand and nails.

3 At the first class the actual method of washing the hands satisfactorily for a delivery must be demonstrated step-by-step and practised by the TBAs.

3.1 Put everything to be used for the handwashing ready in a convenient place where it is unlikely to fall onto the ground. This precaution must be linked in the TBA's mind with "soil and things which have touched soil are the greatest danger to the mother – this is why we must wash our hands so carefully."

3.2 In areas where hands are washed by pouring water over them from a container (dipper), the group can practise by dividing into pairs with one person acting as the pourer. If possible one or two spectators may be enlisted, thereby spreading the idea being taught, so that those who will in future receive attendance from the TBA will demand correct practice.

3.3 The trainer will need to demonstrate the exact way in which the wet-soaped hands are rubbed together as vigorously as possible, especially between the fingers. Special attention must be drawn to the creases in the skin of the hand and wrist. The demonstration will also make clear that the special handwashing technique for delivery means 'up to the elbow.'

3.4 With TBAs, the nails generally present the greatest problem. Dirt becomes ingrained and lodged not only behind the nail but round it, between the nail and the skin. To begin with, the trainer will need to help the TBAs to cut their nails as low as possible within comfort. (Local traditions for one or more long nails must be discussed and every effort made to help the TBA to feel that short clean nails are the symbol of her valued role in society. This will only be possible if the community is brought into the teaching and supports the same idea).

3.5 After successful washing, the hands and forearms should be dried from the hands to the elbow, using the TBA's own towel or clean piece of material kept for the purpose. (In very hot areas, the hands and arms may be shaken dry, but the TBAs need to realize that dry hands are safer than wet). It must be emphasized that it is not acceptable for TBAs to dry their hands on their skirt or sari – if a clean cloth is not available it is safer to let the hands dry

naturally.

3.6 At this point, the trainer should show the group how they can keep their washed hands from being contaminated immediately prior to the delivery of the baby.

4 After effective handwashing has been demonstrated and practised by the TBAs, the group should re-assemble in the discussion area. They should then all look again at their hands, the trainer making encouraging comments. She may well end with some such remark as "We will begin each session with handwashing and soon you'll see lots of improvement. Now why is this so important to the mother? Yes, because dirt means danger."

Especially in any area where tetanus is a problem, the TBAs can be asked if they have ever seen, a few days after delivery:

- a mother or baby with strong movements of all the limbs and arching of the back.
- a baby which cannot suckle milk and cannot open its mouth.

Usually someone will have seen or heard of a case and will be able to describe what happened. This information should then be linked to the statement that something (bacteria), which we cannot see with our eyes and which is often found in animal manure or soil, causes this condition.

Questions and answers might then continue something like this:

Trainer "So what must we do?"
TBA "Keep soil and dust away from the mother at delivery."
Trainer "How would you do that?"
TBA "By washing our hands the proper way?"
Trainer "Yes, is there any other special care you will need to take?"

The trainer can usually lead on from this towards the idea that anything, not only the hands, that will be used for the delivery, must be specially clean, i.e. equipment must be sterilised.

It is common practice in villages to pour water over things to be used (often making them more contaminated in the process!) but ideas of sterilisation are generally new to the TBA, unless she has watched a midwife at work.

The boiling of milk is common practice in some countries. Building on this the trainer could ask "Why do we boil milk?'

"To keep it from going sour."

"Yes, to destroy the things we cannot see with our eyes that make the milk go sour. So, in the same way we boil everything that is going to be used for delivery, to destroy those things that may be there which we cannot see with our eyes which may make the mother or baby ill."

By introducing sterilisation at this point, a link or bridge is provided to its future teaching.

NB In areas where there is a shortage of water, the TBA may be able to prepare an antiseptic solution in a bowl with
(i) Dettol and water or
(ii) Savlon and water or
(iii) boiled water with neem or guava leaves and should dip her hands in the solution before conducting a delivery.

4 Sterilisation of Equipment

Wherever possible, each TBA should be provided with a pre-sterilised delivery pack. The minimum requirements are that it should consist of

- a new razor blade
- 4-5 cord ties
- gauze pieces
- cotton swabs
- antiseptic solution in a small bottle.

Until adequate supplies of such packs become available, it must be remembered that boiling is the only method of sterilisation **readily available** to the TBA.

Shortage of water is a fact of life in many areas, but its use in delivery should receive high priority. Where it really is not available then alternatives have to be used. Flaming, if done correctly, can be an effective method of sterilisation. Boiling in 2% soda can within 5 minutes sterilise any instrument, (R. A. Hughes, *Sterilisation of instruments in isolated hospitals*, Tropical Doctor (1982) **12**: p 87) but the use of antiseptics such as Dettol or Savlon is not as safe as boiling.

How to Teach the Sterilisation of Equipment

Five main points have to be taught in relation to the technique of sterilisation by boiling:

1 Everything to be used for the actual delivery must be boiled just before the delivery, i.e. swabs, cord ties, cord cutter, bowls, etc.

2 All materials must be as clean as possible before boiling.

3 Everything to be boiled must be completely covered with water.

4 The water must be made to boil.

5 Boiling must continue for an adequate length of time as described below

Before the trainer teaches the actual sequence of sterilisation, the TBAs should make or acquire a pair of lifters (sometimes referred to as tongs or forceps) as used locally (bamboo or metal strip). They should then practise using them to lift all the pieces of their equipment out of a pot – difficulty usually arises at first with the cord ties, and bits of rags used as swabs. When the TBA is proficient in controlling her equipment with the lifters, the actual procedure of sterilisation can be taught. If a pair of UNICEF lifters is to be provided, they should arrive in time for the TBAs to practise with them before using them for an actual delivery.

The methods used to teach this safe sterilisation practice must be simple, totally applicable to the TBA's situation and have as many built-in safety factors as possible. Everything taught must be demonstrated exactly as the TBA will be expected to work and using similar equipment and facilities. There need to be frequent return demonstrations from the TBA, using her own equipment.

1 **Everything to be used for the actual delivery must be boiled**

This fact needs to be stressed, so that the TBA always does so automatically. After the dangers of infection to a mother or her baby have been discussed – particularly in relation to the risk of tetanus – and shown to be understood, it should be linked to the importance of clean hands and nails.

2 **Before beginning, all materials to be boiled must be as clean as possible**

This is important and sounds simple, but the teaching points need careful thought and should be demonstrated in a place having the real hazards found in the typical home.

There is a great dangerous possibility that the equipment may actually become more contaminated in the washing process, since it will generally be washed outside under running or poured water – over an area made muddy in the process, where there will be no clean place to put anything down safely.

The recommended safe technique would seem to be:

i Put the equipment in or on a solid clean container, to keep it from further contamination at the washing place.

ii Have the soap and scrubbing materials in a pot or other container so that they will not be

contaminated.

iii Take the vessel in which the equipment is to be boiled to the washing area and wash thoroughly inside.

iv Place each piece of equipment, after thoroughly washing, directly into the vessel to be used for boiling. Great care should be exercised to see that nothing is dropped.

3 **Everything to be boiled must be covered completely with water**

The correct placing of the equipment in the pot can be satisfactorily demonstrated only by using the TBA's own pot and equipment. When the equipment has been placed correctly so that all surfaces will be in contact with the water, the meaning of **covered completely with water** must be demonstrated. The TBA must show her ability to do this by more than one return demonstration during the training programme.

4 **The water must be made to boil**

What is meant by "boiling" water must be very clearly demonstrated and also the control of the fire to keep it boiling explored.

5 **Boiling must continue for an adequate length of time**

For sterilisation to be effective the equipment needs to be in **boiling** water for between 10 and 20 minutes but as TBAs rarely have access to clocks or watches, some other unit of time has to be used.

Some other units of time may be worked out locally by the trainer, e.g. the time it takes for an incense stick to burn, or for a water or sand 'clock' to empty. The use of these locally available units of time does not, however, in any way guarantee that the **water will be boiling for the time period.** This is often a problem, even in formal teaching programmes.

The following method of teaching TBAs has been found successful in overcoming both of these problems, whilst providing an in-built safety mechanism.

i Measure two digits up from the bottom of the lifters or tongs and make a permanent visible mark on them. This needs to be done only at the first session on sterilisation

ii Wash the equipment, put it correctly in the pot and cover it completely with water

iii Hold the lifters upright, the tips resting on top of the highest piece of equipment

iv Add more water until it reaches the mark on the lifters

v Place the lifters under the water in the pot, with the handles outside and place the lid on top

vi Place the pot on the fire which is stoked to bring the water to the boil. The TBAs may need to have practice to be able to answer correctly the question "Is the water boiling?"

vii Control the fire to keep the pot on the boil but not to waste fuel. This must continue until the water has been reduced to the level of the bottom of the lifters when they are again held upright on the highest piece of equipment. At this point the equipment is sterile enough to use.

viii Remove the pot from the fire and put in a safe place to cool. When needed it should be taken to the delivery area and the equipment used straight from the pot.

This method makes certain that the equipment has actually been boiled for the necessary length of time, for without this being so, the water level cannot be reduced.

NB Trainers should check that in their area the addition of water to the height of two digits takes at least 15 minutes of boiling time to evaporate. Overboiling is unimportant but in some areas it may be necessary to add water to a height of three digits, according to the size of the pots.

Throughout the teaching period, practical repetition must be allowed for. All TBAs should practise sterilisation as a group. Then each session, one TBA should have to prepare her own equipment, sterilise it and demonstrate the safe delivery of the Ilfra doll.

NB The whole process must be undertaken each time without short cuts and as far as possible, without pretending (what is pretended in a teaching session is likely to be pretended in actual practice) but whenever water is being used, care must be taken not to waste it. Even if it is available, its collection may represent hours of carrying. In areas of water scarcity it must be used with the utmost caution and constant repetition of handwashing and sterilisation in class may be impossible. One good demonstration with a return demonstration from the TBAs, planned for the most economical use of water, is certainly essential. At other times in the teaching the TBAs may have to be asked to go through the motions without actual water. In this case they must describe how and when they would use actual water while repeating the procedure. **This is very much a Second Best Method of Learning** and it must be stressed that such pretending must **never** be used in actual deliveries.

5 Ante-Natal Care

In general, TBAs are not very experienced in assessing or providing for the needs of the pregnant woman. The idea that they may have a responsibility for her throughout pregnancy is quite a new one for many of them. Most, however, have some assumptions based on local traditional behaviour about what a woman should or should not do, during pregnancy.

The symptoms of early pregnancy, such as missing a menstrual period, nausea, vomiting, frequency of micturition and heaviness of breasts, are known to most of the experienced TBAs. But often they do not have the skill to calculate the date of delivery. The trainer may be able to teach them with the help of calendars based on the moon, local events and/or simple palpation.

Areas of Content to be Covered in Ante-Natal Teaching

1 What the TBA needs to know to give a woman safe care during her pregnancy.

- a Rules for healthy living in keeping with the local situation. How the pregnant woman may keep herself healthy
- b The importance of ante-natal injections of tetanus toxoid
- c Simple advice on the prevention or relief of the discomforts of pregnancy
- d Recognition of conditions that need more expert advice than the TBA is able to give — willingness on the part of the TBA to refer these.
- e Recognition of the danger signs in pregnancy and the risk conditions that need expert assessment regarding delivery. What the TBA must do.

2 Very simple history-taking, to discover the discomforts, conditions and danger signs as mentioned above. Most TBAs will commit to memory the information gained, since few of them will be literate.

3 How the TBA can discover the progress of the pregnancy and what advice and care the pregnant woman needs.

- a Observing the pregnant woman and checking for:
  - Too short
  - Abnormal walking as a sign of pelvic abnormalities
  - Swelling of ankles
  - Puffiness of hands or face
  - Pallor (finger nails, lips, tongue and eyes)
  - Excessive tiredness
  - Jaundice
  - Any other minor or major complaints — linked with **1c** or **1d**
- b Assessing the progress of pregnancy by examination of the abdomen:

  Visual:
  - Abdominal shape and size for duration of pregnancy
  - Scars

  Palpation for:
  - The height of uterus (3 landmarks: just out of pelvis; at the umbilicus; at sternum)
  - Presentation: head, breech, transverse lie
  - Position of the back
  - Foetal heart sounds
  - Foetal movements
  - The size of the baby's head in relation to the pelvis after 8 months.

NB The position of the back will help the TBA to find the foetal heart sound but this has little significance for her. Some TBAs will have difficulties and should not be pressed. Some have difficulties in finding or hearing the foetal heart sound — they will have to rely on foetal movements. The trainer should never burden the TBA with information or procedures she is not capable of using.

- c Examination of the breasts — preparation for breast feeding — discussion and advice for primae gravida and mothers who have previously experienced problems in feeding.

4 Preparation for labour:

- a How the TBA should supervise the selection and preparation by the pregnant woman of a suitable

room for birth, clothing for the mother and other materials required for delivery.

b Establishment by the TBA of a habit of checking the instruments and boiling facilities (i.e. for sterilising the instruments) at the time when the labour pains start and she goes to the woman's house to conduct the delivery.

c Ensuring that the sterilized delivery pack, if supplied, is readily available at the place of birth.

How the Pregnant Woman may keep herself healthy

The trainer should encourage the TBAs to discuss their beliefs about what women should be allowed to do during pregnancy.

She may strengthen some ideas, amend others, ignore those that do not matter and reject those that are dangerous.

When dealing with the latter, she should always try to provide a positive action to replace the dangerous practice. In this way a verbal picture of how to keep a pregnant woman healthy, in accordance with the local culture pattern and modern ideas, will be built up. The main topics to be considered are likely to be:

Personal hygiene
- care of the skin, external genitals
- bowels
- preparation of the breasts
- sleep and rest (Family members must be taught to take over some of the mother's chores, so that she has opportunities to rest and will not be fatigued unduly
- fresh air and exercise, especially for women keeping purdah

Nutrition
- adequate food according to availability and income
- importance of food rich in iron
- importance of fluid and roughage

Sexual intercourse during pregnancy
- can be allowed until full-term, unless the woman feels discomfort
- should be avoided by women
  - i with previous history of abortion or premature delivery
  - ii with vaginal bleeding during present pregnancy

Hazards
- smoking
- alcohol
- places where infections are known to exist, e.g. if a neighbour is known to be suffering from a fever, cough or rash. TBAs should ensure that pregnant women have received their two doses of tetanus toxoid vaccine.

Importance of family spacing
- After delivery, for the sake of the mother's health and family well-being.

Peace of mind
- May be helped by discussion of any fears the mother may have. The overall aim is the development of a happy, contented attitude of mind to pregnancy.

The teaching should allow for the experience of Ante-Natal care to be gained in the same sort of environment as the TBAs will work in, including the mothers' own homes. Four sessions are suggested but these can be increased if time permits.

After demonstration by the trainer, the TBAs should practise discussion with the mother, examination and the provision of supportive action and advice.

In addition to this, the pregnant women should feel welcome to attend other teaching sessions from time to time and full use should be made of their presence.

The TBA should as a result of the teaching be enabled to give her ante-natal mothers a service she has often not previously provided to increase the comfort and safety of their pregnancy, by:

1 Giving convincing teaching, so that the pregnant woman will follow the rules for healthy living as applicable in her area.

2 Discovering, and advising on, the discomforts of pregnancy; knowing when more expert advice is required.

3 Recognising the risk conditions that make a decision about where the mother should be delivered necessary

4 Recognising the danger signs in pregnancy which make early or immediate referral essential.

6 Nutrition

(This is a very brief introduction to the subject: for a fuller account see *Guidelines for Training Community Health Workers in Nutrition.* Geneva, 1981. WHO Offset Publication No. 59)

Malnutrition is rife in the areas where TBAs work. TBAs and other villagers are likely to experience it to a greater or lesser degree. Poverty will play a large part but, even in very poor homes, some infants and young children are more at risk than others, due largely to ignorance of the right foods to eat and traditional food prejudices. A low health and nutrition awareness amongst the family and community contributes to under-utilisation of available services. Moreover, the neglect by women of their own diet results in maternal malnutrition The growth of the foetus and lactation depend upon adequate maternal nutrition.

In trying to improve people's nutrition, the teacher's status in the community is of the utmost importance. He or she is much more likely to be listened to on this subject if one of the local group, rather than an outsider, however prestigious this person may be. There are many different ways of approaching nutrition teaching, but basic to them all is the goal of a change of behaviour. Too often the facts are learned but ignored in practice, having been mentally but not emotionally accepted. It would seem from experience that the more nutritional teaching is planned as a specific answer to specific local problems the more likely it is to be remembered and followed. This applies to teaching the TBA and to the method used by the TBA to teach the community.

Nutrition education should recognize and strengthen those food habits and traditions that are healthy rather than try to change people's bad habits.

Maternal Nutrition

During pregnancy a woman requires adequate food to provide the raw materials needed for forming the baby's bone and tissues. Mothers who are severely malnourished or not adequately fed during pregnancy often have low birthweight babies.

Ante-natal women need extra iron. This provides for a reserve of iron in the baby at birth. (Very important because there is no iron in breast milk).

The diet of the mother while breast feeding is equally important. Mothers who do long hours of heavy work as well as feeding their babies need more food than the mother who does not work outside the home.

During pregnancy and lactation the mother needs to give special attention to eating as wide a variety of foods as possible. Mixed cereals (whole grain), mixed pulses and dark green vegetables, a small amount of cooking oil and raw sugar form a good basic diet. To this should be added milk and milk products if available and any animal food the family may normally eat.

Along with the right food, ante-natal and nursing mothers need adequate rest so that the food they have is used rightly.

The nutritional state of mothers is likely to be unsatisfactory if they have had:

- deliveries at short intervals.
- many children.
- excessive bleeding during menstruation over a long time.
- had children whilst they themselves were teenagers.
- neglected their own diet in favour of feeding children, family and guests.
- certain beliefs and taboos forbidding women to eat nutritious food during pregnancy and lactation.
- diseases like tuberculosis, malaria, diarrhoea, dysentery and worm infestations.

Malnutrition in Pregnant Women

There is no precise way of detecting which mothers are under-nourished during pregnancy. The appearance of the pregnant woman is, however, an important guide for the TBA. She should be taught to observe the mother carefully and note the following signs:

- a thin or wasted look of body or limbs or face.
- loose folds of skin over her upper arms, chest or abdomen
- very pale inner lips, lower eye lids or nails; or breathlessness on exertion (signs of anaemia).

Previous low birthweight babies may be a sign that the mother is malnourished.

Encourage the TBAs to investigate the nutritional state of their own community, noting the special problems they find. Make them aware of locally available cheap food by asking them to bring to the next class the foods they feel pregnant women should eat and use these as a basis for discussion. Draw the TBAs' attention to any important local foods they have omitted. They should be able to recognise the customs and beliefs which influence nutrition. Discuss ways to replace bad or harmful customs and practices with acceptable alternatives.

Exercises to provide experience for the TBA in helping people to recognise and solve their own nutritional problems within the opportunities and constraints of the actual situation:

1 Gather together with the TBAs a number of people of different ages and conditions, for a discussion of their own specific nutritional problems and opportunities. The trainer should supply factual information only, if required. As far as possible, she should prompt the TBAs to take the main responsibility, and encourage the members of the group to arrive at their own decisions for change where needed, based not only on what is desirable, but what is possible for them.

2 The trainer may take the TBAs out into the community and draw their attention to a variety of good and bad nutritional situations opening up an opportunity for their own on-the-spot discussion with the community. There may be a tendency for everyone to talk at once. In this case, the trainer can provide an introduction to the discussion of a commonly presenting problem and then pair off one or two TBAs, with each community member, to discuss this particular nutritional situation. The trainer may or may not feel it necessary to sum up the main points of the teaching for the whole group before passing on to the considerations of another common local nutritional problem.

Measuring the Nutritional Status of Children from one to five years using an Arm Band

The assessment of children's nutritional status with the arm band is based on the fact that the upper mid-arm circumference of well nourished children from 1 to 5 years varies very little. (At one year, the flesh of the arm is mainly fat and at five years mainly muscle, but the external measurement remains almost the same. If the child is malnourished, the measurement round the middle of the upper part of the left arm is less than it should be.

Each TBA needs to be provided with a durable arm band for measurement, or be given the opportunity to make her own under guidance. This may be made of a variety of different materials but it is important that they should not stretch. String, strips from old X-Ray plates, tightly woven non-stretch cotton cloth or even plastic-coated paper cut from the visual aids of this kit can all be used successfully. Whatever material is chosen, the measurements, colouring and use are the same.

How to Make an Arm Band

1 Take a strip of the material chosen that measures 20 cms (8 ins) long and about 1 cm (½ in) wide.

2 Measure 12.5 cms (5 ins) from one end and make a clear mark.

3 Colour this 12.5 cms (5ins) red or use red material.

4 Measure a further 1 cm (½ in) along and colour this yellow.

5 The remaining part should be coloured green.

The colouring is based on the widely recognised idea of red for danger, yellow warning and green safety, but can be varied to suit the ideas of differing culture patterns as desired.

NB If old X-Ray film is used, it must be soaked first in a strong solution of washing soda to remove the surface. A spirit felt pen will then provide permanent colour. If this

is not available, a coloured pencil is only successful if the surface of the film is roughened after soaking. Colour both sides; if cotton material is used, each colour must be carefully measured and a small allowance added for stitching together.

How to Use the Three-Colour Arm Band

Placing the red part of the measuring band firmly on the middle of the upper arm, wind the rest of the band round and note which colour is touching the end of the red.

1 If the red end is touching green, the child is well-nourished. If the red end goes more than 2 cm. (¾ in.) into the green, the child may be over-fat and the mother needs advice to cut down on starch and sugar.

2 If the red end touches the yellow, this is an important warning sign. The child needs more food and, if the diet is not improved, the child will be malnourished.

3 If the red end touches red, this means that the child is malnourished and is in danger. The further into the red area the red end goes, the more serious the malnutrition, and the child needs to be referred.

A very high number of children between the age of 1 year and 5 years come into the malnourished group. The TBA should tell the village leaders and any health staff with whom she may be in contact, so that more specific help may be given.

How to Teach the TBA to Use the Arm Band

The TBA can only learn to use the band by practice. From the beginning, the measuring should only be done when a member of the child's family is there, so that correct teaching can immediately be given according to need. For this experience, it is necessary to gather together a number of young children between the ages of 1 and 5 years with a member of their family, or to take the TBAs round the village to find and assess appropriate children. The trainer should first demonstrate the skill and provide the required supportive teaching for the family. Then each TBA should measure a child, announcing the result while showing the mother which area the red end reaches. This should be followed by the required specific teaching which will have already been taught to the TBAs in the section on the feeding and care of young children.

If the child is malnourished and the family willing to follow the TBA's advice, the mother should be able to see the red end subsequently touch the yellow and then the green. All teaching should be based on encouragement to the family and never condemnation.

Feeding the Young Child

Introduction of Solids

After the TBA has helped the mother to establish successful breast feeding, she should be equipped and convinced, and thus be able to persuade the family that some addition of solids, or semi-solids, will soon be necessary. This does not become vital, if the baby is making good progress, until about six months, when the supply of iron in the baby's body at birth is used up, but the family and baby should be conditioned to the need beforehand. If the teaching is to be acted upon, it must fit into the local culture pattern. This applies equally to teaching the TBAs and to the TBAs' teaching their families. With sufficient understanding of both basic nutritional requirements and local ideas, it is possible to work out realistic feeding patterns acceptable on all counts. For example, in some areas it is forbidden to give the basic cereal, **traditionally cooked** by boiling, until after a certain ceremony has been performed at about ten months. If, however, this cereal (e.g. corn, rice, wheat) is puffed and powdered and mixed with boiled milk or water, this is acceptable **before** the ceremony, and the nutritional value to the baby is the same.

The TBAs' ideas will usually be in agreement with those of other villagers. They will, therefore, need to be convinced personally of the rightness and importance of supplementing the breast feed with semi-solids and solids before they are able or willing to encourage others to do so.

Experience has shown that gaining the family's confidence for the addition of solids is the most important point. It is, therefore, best to concentrate on this first by asking the family what **they** would like to give the baby in addition to the breast milk, rather than telling them that now is the time to add this or that food. It is unlikely that the family will want to give anything dangerous, so that even if their proposal is economically wasteful, or nutritionally of little value, it is often best to encourage the family's choice by saying that the food chosen will do fine **to begin with.** Once the family and the baby have accepted the practice of an addition to the breast feed, changes, within the availability of foods and the local culture pattern, can be suggested in order to provide the extra nutritional requirements of the growing baby, particularly for iron and energy-producing foods.

A common objection to giving solids in addition to the breast milk to the young baby is that it causes diarrhoea. It is important to help the TBAs to recognise that diarrohea is not caused by solid food but by lack of cleanliness of food. Inadequate nutrition may predispose to diarrhoea by weakening the baby, so that when there is infection the diarrhoea becomes a dangerous illness in itself. If dealt with quickly as a symptom of malnutrition, it will clear up when more food is given.

The aim must be to prevent malnutrition and diarrhoea, by giving safe clean 'solid' food, in addition to the breast milk, at the right time.

The trainer should ask the TBAs to invite to the next class a few of their mothers with babies between the ages of 5 — 10 months. (Alternatively, some mothers attending a **local** baby clinic session might be used). The trainer might also ask different TBAs to bring along an agreed food suitably prepared for giving to a baby as an addition to the breast feed.

At the next class, the trainer should welcome the mothers informally as they arrive and while making contact with their babies, roughly assess their condition and needs.

If there is a suitable TBA, she could be asked to begin by talking about the nutritional needs of this age group.

Alternatively, the trainer might begin and involve both the mothers and TBAs in the discussion.

After this, the TBAs could show the foods they have prepared. (In some areas this preparation might be done as part of the class and the babies present might be fed the resulting preparations. In some areas food prepared by the TBA might, however, not be acceptable to mothers. In other areas it may be possible to encourage the mothers by letting them taste the foods).

The trainer should see each mother and baby, with the TBAs present, to assess nutritional needs and discuss a plan of action agreed **with** the mother. The TBA having most contact with the particular mother should then be given the responsibility of following up and helping the mother to carry through the plan of action.

In the following classes, the TBAs may report on their efforts and receive support and advice for widening their influence on child nutrition.

Guide to the Feeding of the Infant in the First Year of Life

● Birth to 4 months

Breast feed on demand, which in practice usually means 6-8 feeds in 24 hours at first, settling to 5 feeds by 2-3 months.

Remember the importance of giving both breasts at every feed and always emptying both breasts every time. The baby must suck well onto the areola and never on the end of the nipple.

From the age of 2-3 months, depending on the individual, a few teaspoonfuls of thin soups, (e.g. the stock remaining when mashed boiled vegetables are strained) or fruit juice may be given between breast feeds.

● 4 – 5 months

First 'solid' or semi-solid food should be introduced, usually a cereal – porridge (see notes on cooking) or ripe banana, or potato. Introduce a very small quantity at first before one breast feed and gradually increase quantity and variety.

● 6 months

From 6 months, additional iron is essential. (The baby's birth store is finished and milk does not contain any iron). Soft mashed green leaves, egg yolk, puree of liver or red meat, natural raw sugar are good sources. For the vegetarian, pulses and whole cereals are important sources, in addition to dark, green leaves. (Dark green leaves are also an important source of Vitamin A).

● 6 – 12 months

A variety of vegetables should be added (see notes on cooking). Solids should now be given before the two main daytime feeds and quantity increased to about a cupful by 1 year. This should always be followed by the full breast feed.

● 12 months

At one year the baby should be having food out of the family pot, but without any spices.

Cooking Notes

1 **Cereal Porridge**

The more types of cereal that are included in the porridge at one time the better. The aim should be always to have a mixture of at least three.

These cereals should be lightly milled and ground. The flour used for the four-month baby should be very fine and the porridge very smooth. Use animal milk, if available, to make the porridge, which should be well cooked, with a little raw sugar added. If no milk is available use water, ideally with the milk from soya beans or add a little light sweet oil.

Once the simple porridge has been accepted by the baby, thin and then thicker pulses should be given. This may be kept separately or added to the porridge without any sugar. The more dals that are mixed together for this purpose the better the nutritional value.

2 **How to Prepare Vegetables**

a **Green, leafy vegetables**

The darker the leaves, the higher their nutritional value. Wash the leaves and take off any stalks or strong central veins. Cut into small pieces with a very sharp knife and put immediately into a very small quantity of boiling water. Cook with a lid on the pan until the leaves are tender enough to mash up into a soft paste. (The shorter the cooking time the better the value. If any water is left, the mother should be advised to drink it).

b **Potato**

Scrub potatoes and boil in their skins until well cooked, i.e. soft right through. Remove the skin and mash the potato well with a little light oil, curds or milk.

c **Carrot or other root vegetable**

Wash, take the skin off as required (minimum on carrots), cut into pieces by boiling until soft enough to mash.

d **Banana**

Should always be properly ripe. Remove any seeds and central area if stringy, before mashing well.

e **Tomato, citrus fruit, grated ripe apples, papaya**

If seeds are removed and the pulp well squashed these are all suitable for babies.

3 **Eggs**

Boil lightly, or mix with other food.

NB Since some babies are allergic to eggs, a very little yolk should be given first. If there is any sign of swollen lips, eggs should not be given.

4 **Fish**

Boil, steam or cook on hot stones. Care must be taken to remove all skin and bones. The flesh should be very well mashed to a pulp.

5 **Meat**

Cook till very soft and mash to a pulp. The juice may be mixed with it.

6 **Liver**

Stew till tender and pound to a pulp.

Additional Notes

1 **In the case of vegetarians,** special care must be taken to see that enough green leaves are eaten, to supply the needed iron. It is also essential that a mixture of cereal and dals, beans or peas, is given at the same meal, to supply the necessary mixture of essential amino-acids. The breast or other milk taken at the same time will ensure that the protein in the meal is utilised.

2 **Every new food should be introduced in very small quantities, very slowly**

Children, even babies, have preferences like adults and obvious dislikes should be recognised and accepted. There is usually an acceptable alternative. The earlier the solids

are introduced, the more likely it is that they, and later changes of food, will be accepted by the child. If the child is reluctant to try new foods, a very little salt or brown sugar can be added to make the taste more acceptable.

3 **Food should be served fresh and must be guarded against flies and other contamination**

4 **Before preparing food or feeding the baby** a mother must always clean her hands thoroughly. The young child must have its hands cleaned before being given food and must learn, as early as possible, to clean the hands routinely after the latrine and before meals.

5 **Food contaminated by fingers or flies is the main cause of diarrhoea.**

7 Risk Factors in Pregnancy

Teaching:

1 the Danger Signs in Pregnancy which require Referral
2 the Risk Conditions that need a Decision regarding Delivery

Most TBAs are conscious that some deliveries are difficult and dangerous for the mother or baby. In areas where there is the possibility of alternative facilities for delivery, the majority of TBAs refuse to accept mothers they think may not be normal. The TBA does not generally, however, have much contact with the mother during the ante-natal period unless something goes wrong.

Stress should be laid on the desirability of all mothers being seen by a knowledgeable health worker at about 20 and 36 weeks, but this is often not acceptable to the family if it is necessary to travel some distance to the health centre. The TBA should, therefore, be encouraged to visit each woman 3 – 4 times during her pregnancy (i.e. once during the second trimester and twice during the third) and must be able to recognise which conditions require an expert decision in relation to immediate treatment or special delivery facilities. In areas where there is an infrastructure of basic health services and a commitment to Primary Health Care, the TBA should be expected to refer all mothers showing any of the risk conditions. In some areas all women having first babies are considered to be at risk but generally only those with some specific risk condition can be persuaded to make a long journey for delivery. All TBAs must know how to get the most rapid emergency help for a mother when required. This should be discussed jointly by the trainer, TBAs, village leaders and community worker.

The list of 'risk factors' in pregnancy may vary slightly from area to area but they may usually be divided into:

1 **Danger signs** – conditions calling for immediate (emergency) or very early treatment.

2 **Risk conditions** – potentially dangerous factors which call for an assessment of whether the TBA should undertake the delivery, or refer to a health centre.

1 **DANGER SIGNS IN PREGNANCY WHICH MUST BE REFERRED AS QUICKLY AS POSSIBLE, SOME AS EMERGENCIES (Shown by *)**

1.1 Vaginal bleeding at any time*.

1.2 Persistent vomiting after 3 months.

1.3 Extreme pallor and weakness (too weak to work) or jaundice.

1.4 Persistent headaches, blurred vision or giddiness, or showing signs of fits*.

1.5 Puffy face or puffy hands at any time, or swollen legs in the morning.

1.6 Loss of foetal movement and no foetal heart sound.

1.7 Abnormal position of foetus late in the pregnancy, i.e. head is **not** the presenting part.

1.8 Acute abdominal pain.

1.9 Continuing high temperature or long illness.

2 **RISK CONDITIONS THAT REQUIRE ASSESSMENT OF WHETHER THE TBA SHOULD UNDERTAKE THE DELIVERY**

2.1 Operation scar on the abdomen.

2.2 Too short (the trainer must find out the local height norm below which it is not advisable for the TBA to deliver e.g. – India 145 cm, Burma 140 cm).

2.3 Noticeable deformity of the pelvis and legs.

2.4 Vaginal bleeding in a previous pregnancy or severe bleeding after previous delivery.

2.5 Difficulty in previous labour (including retained placenta or a still-born baby).

2.6 More than 5 children (the parity chosen may vary in different areas but it is usually between four and six).

2.7 Very young or elderly mother – where the age is known this can be specified as below 17 or over 35 years.

2.8 Abdomen too big for estimated date of delivery.

2.9 Extreme thinness.

2.10 Previous low birth weight baby

With prompting, the TBAs can be encouraged to think of all the danger signs and risk conditions for themselves. It is important that they should remember them so that they recognise them and act quickly should they occur. The picture cards supplied with the kit can be reproduced locally for use as memory aids. How each condition is discovered should be discussed and demonstrated on a pregnant woman, where applicable (see below for further details).

Toxaemia of Pregnancy – 1.2, 1.4, 1.5

The acute and highly dangerous condition known as eclampsia occurs because of neglect of warning signs, the earliest of which is usually oedema. The others are vomiting, headaches, blurred vision and giddiness leading to fits. Any of these signs are dangerous and need help. When they occur they constitute an emergency. (Albumen in the urine and a high blood pressure are, of course, also important signs, but the ordinary TBA will not have the means of ascertaining them).

Extreme pallor and weakness – 1.3

Pallor can be ascertained from the nails, lips and tongue: the conjunctiva may be less reliable as an indicator. Paleness and weakness may be signs of anaemia and the woman should be encouraged to go to the nearest health centre for iron tablets. She should also be reminded of the importance of correct diet (see section on nutrition).

Pallor may also be a presenting factor in other conditions, e.g. hookworm infestation and malaria in areas where these are prevalent; or where the pregnant woman displays additional symptoms, such as acute loss of appetite, breathing difficulty, palpitations, extreme fatigue, severe swelling of legs and feet, the TBA must refer to a health centre.

Oedema – 1.5

Needs to be diagnosed as early as possible. The TBA should be taught to advise rest in bed with the feet raised and a salt-restricted diet for two weeks. If the condition does not improve or has already existed for some time before diagnosis, help is needed.

Abnormal presentation – 1.7

Illustrations accompanying this Kit, such as the Lydia pictures, can be used to illustrate abnormal foetal positions. Whenever possible, practical demonstrations of abnormal presentation in pregnant women should be given.

If a woman with an abnormal presentation is not available, the TBAs should be shown such presentations using a doll on their own abdomen.

Scar on abdomen – 2.1

This can be looked for when the TBA is examining to check the progress of pregnancy.

Too short, noticeable deformity of legs or pelvis – 2.2, 2.3

The TBAs will be able to pick out women with a deformity of the legs but they will not know the meaning of 'too short' even when told that it refers to all women whose height is below some agreed figure such as 4' 8" or 5'. Various methods which every TBA can use can be taught to reveal who is 'too short':

a A measure mark of the height decided upon for determining 'too short' is made on a wall, post, tree trunk, or other available fixed upright. Each TBA is then measured against the mark and places her hand at the point the mark reaches **on her.** The trainer will reinforce this by the statement "Anyone whose top of head comes below your top of ear (shoulder, eye level, etc., depending on the height of the TBA) is too short". By this method each TBA carries her own measure with her, with nothing to remember except that she **must not** deliver anyone whose top of head comes below this point.

b A stick exactly measuring the locally agreed height of 'too short' can be used.

Bleeding in a previous pregnancy – 2.4

This is best taught together with the Danger Sign of Bleeding at any time in Pregnancy – 1.1

Previous difficulty in labour or a stillborn baby – 2.5

The importance of knowing about a woman's previous deliveries should be explained and TBAs given practice in taking simple histories. Since the majority cannot write they will generally commit their findings to memory.

Women with a high number of previous deliveries or inadequate spacing – 2.6

While explaining the dangers of this situation, the trainer can also stress the desirability of a small well-spaced family for both the mother and her family.

First pregnancies – 2.7

The trainer needs to explain local health policy with regard to which mothers are regarded as being dangerously young or old for a first pregnancy.

Teaching Safe Management using the Ilfra Doll and the Lydia Pictures

Before teaching this session begins, the TBAs must be reminded of the necessity of confirming at the start of the first stage of labour, that the pregnancy is normal, especially the position of the baby.

The Ilfra doll was devised to demonstrate why the practice of 'pushing' in the first stage of labour often encouraged by TBAs, is not only dangerous but ineffective. It can be used to show how the 'opening of the birth passage' increases in size to allow the head through by a shortening or pulling up of the walls of the uterus. After this class the TBAs can be encouraged to make themselves a similar doll and a bag, which can be used at subsequent classes for them to teach each other and later the ante-natal women. The doll will also be used for the practice of mouth-to-mouth breathing and safe tying of the cord.

Method

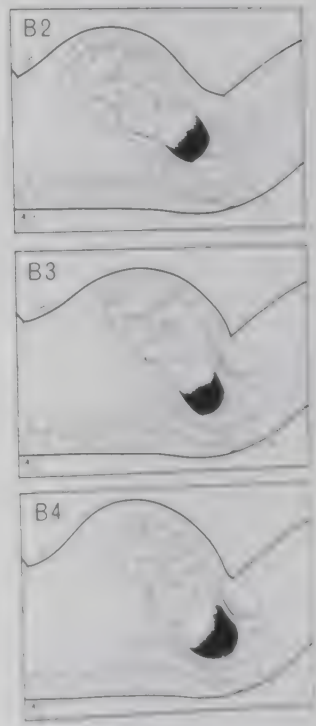
1 Place the Lydia Pictures on the floor with the mid-section showing the baby at term uppermost. (B2) Directing attention to the thick-walled closed opening, ask: "How is the baby going to get through that opening to be born? What happens and what do you do?" Let the TBAs explain what they do but refrain from comment until the end. Then sum up: "Yes, so at the beginning of labour the baby is inside the bag of water and the opening at the bottom end is tightly closed.
You think that you can force an opening by pushing. This is not so. The opening at the bottom of the bag which holds the baby must be as large as the baby's head before pushing begins. Now I will show how that opening takes place and why pushing too early is really dangerous."

2 Produce the Ilfra doll in its bag with the drawstring held to keep the opening closed. Let each TBA feel the doll's head and as they do so comment on its hardness and ask the question: "Can that head get through that closed opening?" Keeping the drawstring tightly held, demonstrate that pushing from the top of the bag onto the doll, does not produce an opening. Remind the TBAs that the closed opening is soft and fleshy like our lips, and ask them what happens if something hard is banged against our lips. (This can be acted out using a tea bowl or similar object that may be handy). With a little prompting, the TBAs will produce the information that the lips will get sore and will then begin to swell, so that it will be difficult to open the mouth. "And so if the head of the baby is forced repeatedly against the closed opening to the birth passage, it will become more difficult for it to open.

3 Tell the TBAs that this tightly-closed exit does open naturally during the first stage of labour until it is big enough for the baby to pass through. Change the middle section of the Lydia Pictures to B3 and compare the two, pointing to the cervix. Ask the TBAs what difference they can see in the opening as shown in the two pictures: "See the opening is still closed but the wall has become much thinner." Explain that this has happened with the first contractions, and that next, the opening will begin to take place.

4 Picking up the bag again, explain that the opening will happen because the sides of the bag are pulled up and get shorter. Demonstrate this by pulling up the sides and middle of the bag by turn, gently with both hands. With each pull up show the result of the slowly-widening exit, saying "Can the head pass through that?" until the point is reached when the answer is: "Yes, so now the mother must use her contractions to push the baby out. Instruct the woman to hold her breath, instead of relaxing with her contraction, and to use her natural urge to push to the full. Remind the TBAs again never to ask the mother to bear down or push until the opening is wide enough to let the baby through.

5 Change the middle section of the Lydia Pictures to B4 and recapitulate what has been discussed so far by comparing all three cards. While making the comparison, to show the progress of the first stage point to the still unbroken "bag of waters" and ask the TBAs when they expect it to break. A short discussion should follow based on experience of early and late rupture of the membranes and the effect on the labour. Pushing in the first stage increases the risk of the waters breaking early



The reader is referred to Teaching/Learning Resources where the use of the Lydia pictures in TBA training is explained

or a longer labour. A check should be made at this point on what the TBAs do when the membranes are intact at crowning. Ask the TBAs to explain in their own words what the difference is between the three pictures and how the closed opening has widened to allow the head to pass through.

The TBA must be taught to recognise when the opening is fully wide, so that she can then encourage the mother to push instead of relax with her contractions. Since most TBAs are mothers, their own experience can best be appealed to. "Think back to your own labour – do you remember anything different between the early and later contractions?" A typical response to this question is: "When we have an early contraction we can speak to people but with the later contractions we can't." To this clear observation should be added sweating of the forehead, pallor at the junction of cheek/forehead – if it can be established, bulging of the perineum (explain without being technical the perineal area and the bulge), pressure on the rectum – similar to a desire to pass stools, and the mother's now irresistible feeling that she must push. This information from good observation makes internal examinations unnecessary. In areas where they are not normal TBA practice, they should not be mentioned. Where they are, they should be discouraged, and their dangers stressed.

This may be a good place to remind the group of the points they must observe to keep the mother safe from infection, viz:

- safe hand washing
- sterilization of equipment
- anti-tetanus injections
- no internal interference

Whenever possible, something positive should be found to replace a dangerous practice that the TBA is being asked to stop. Instead of pushing in the first stage of labour, relaxing with the contractions is the most effective technique, but this is not always easy or acceptable to some mothers. The obvious substitute is the deep back rub. (Both techniques may, however, be desirable at different times in the same labour). Instead of pushing at the front, the TBA will aim to relieve the pain where it is mainly felt, in the back. The mother should be asked to hold on to the back of a chair, table-top or door-jamb and to lean slightly forward with feet a little apart. The TBA should then rub the small of the back, where the contractions are generally most felt, with the bony base of the hand using firm, half-circular movements over the affected area. The TBAs can be paired to practise this activity on each other.

Since TBAs' practice follows the time-honoured traditions of the whole village as much as that of their own particular group, it is wise to invite pregnant women and influential villagers to some of the classes. On these occasions, points that need family co-operation, such as providing a pot and fuel for boiling the equipment should be reviewed. Any desired total changes of practice, such as not pushing in the first stage should also be stressed, so that people are prepared for them and will encourage the TBA to follow what she has been taught. Experience shows that TBAs, like other groups, generally set out to please those who use their services and often continue to do things that they know are wrong because the people still expect it of them. Others who are more conscientious and convinced by the teaching may alter their practice and lose employment, because the families are fearful of the changes which they do not understand.

9 The Second and Third Stages of Labour

Teaching the Management of Actual Delivery using the Ilfra Doll and the Lydia Pictures

In most sessions, one TBA should be expected to demonstrate the conduct of a simulated delivery, beginning with the preparation and sterilization of her own equipment. For the delivery she should be provided with an assistant, as she would expect to be in the home where a female member of the family is generally available to help. (If two TBAs normally work as a pair, they should be kept together during the teaching periods).

1 Prepare and damp-wipe a floor-mat to serve as the area of delivery. Place the Lydia pictures on top, with middle section B4 showing full dilatation. This will allow for quick recapitulation or testing about the preceding first stage, reminding the class of how full dilatation has been reached, using the doll and bag. Place the doll in the bag with the opening showing full dilatation on top of the model. (As the delivery proceeds change the middle section of the Lydia pictures, as appropriate). B5, B6 – B7 and B8

2 Instruct the TBA to prepare for delivery. It is important to stress that nothing must be pretended in relation to what the TBA will do. When the point in the delivery is reached when she should wash her hands, she must actually go and wash them, taking exactly the same care she would be expected to at a real delivery. Stress the importance of boiling any equipment to be used for delivery, in good time for the water to cool.
NB The delivery demonstration must not take place until the equipment has been sterilised.

Experience has shown that it is safest to encourage the TBA to bring the pot of boiled equipment to the delivery area and to use the things required directly from the pot.

3 Allow the TBA to follow her own practice without comment so long as it is not actually unsafe. If it is, discuss why she acts as she does and explain why the method she has chosen is dangerous. Decide together what would be acceptable practice and why.

Take the opportunity to stress non-interference and the wisdom of teaching the mother to take panting breaths during crowning, so that the head is delivered between contractions.

4 Teach the TBA to feel for a cord round the baby's neck if this is not her usual practice. From time to time, while preparing for the simulated delivery, put the cord round the doll's neck without the TBA seeing.

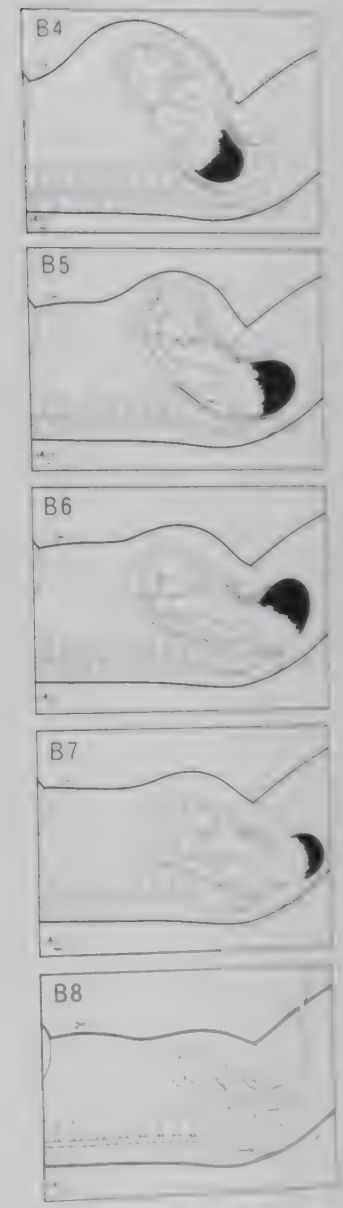
5 In view of the fact that TBAs have no means of 'sucking-out' the baby, the clearing of the airway by means of a piece of cloth on the finger is very important. Use an older baby if available to demonstrate the correct method of clearing the air passage. It can be simulated on the Ilfra doll at the appropriate time in the delivery demonstration.
NB At this point the Lydia picture B8 showing only the placenta in the uterus should be in position, with the bag on top containing the placenta.

While the delivery of the placenta is awaited, cover the top half of the cut-out model with a cloth to keep the 'mother' comfortable.

6 When an actual baby is delivered, almost all TBAs wait until the placenta is out before cutting or tying the cord – some do not tie it at all and wait until the cord has withered before cutting. The practice of cutting the cord only after placental separation is most effective in safeguarding the mother from ascending infection and should not be changed. Encourage the TBA, while she is waiting for placental separation, to milk the cord to the baby until pulsation stops and then to tie it in two places ready for cutting **after** the placenta has been delivered.

There are, however, two occasions when cutting **before** separation is important, i.e. in the case of an asphyxiated baby needing immediate attention, or when a placenta slow in separating may be helped by putting the baby to the breast. While the baby is awaiting placental separation before the cord is cut, it should be wrapped in a piece of clean cloth to keep it warm.

7 In view of the risk of neo-natal mortality and morbidity from bleeding cords, adequate tying is very important.



The reader is referred to Teaching/Learning Resources where the use of the Ly[illegible] pictures in TBA training is explained.

Teaching older TBAs to tie a reef knot may prove difficult: before doing so, investigate the safety of the knots already being used. Emphasize the importance of the knot's tightness, as well as its inability to slip. Failure is often due to the use of an inappropriate cord tie. At each simulated delivery the cord must be properly tied and cut, and the stump treated. An important precaution against cord stump bleeding is the fixing of a second tie on the stump, between the first and the baby, after the baby has been bathed or otherwise cleaned up.

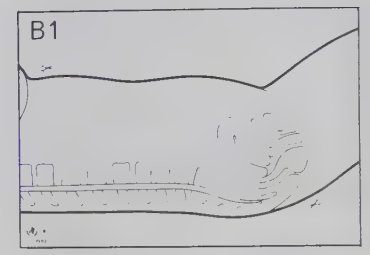
NB The cord attached to the doll should be capable of being cut with the instrument normally used by the TBA. After the session, remove the cut stump and re-attach the cord. To facilitate this, a safety pin may be used to attach the cord to the stump and released when 'cutting' takes place. When necessary, make a new cord or lengthen the existing one. It may be advisable to make the original slightly longer than is usual. In some areas a small block, money, or polished stone is often used to cut on. Where this is the case, the object must be boiled together with the other equipment. Charcoal, which is perhaps the best choice, is also used as it is taken directly from the fire, it does not need to be boiled. In many areas it is more common for the TBA to hold the umbilical cord between two fingers.

8 Advise the TBA how to treat the umbilical stump, stressing the grave risk of infection to the infant and the need to keep the stump dry. If the TBA has been provided with a delivery kit she can use tincture of iodine on a cotton swab: if iodine, antiseptic or analine dye are not available, tell her to leave the stump untreated rather than risk infection with one of the traditionally used substances, such as cow dung or ashes. The TBA should practise treating the stump during the simulated delivery, applying the iodine (antiseptic or analine dye) to the end of and around the umbilicus immediately after cutting, and again after the bath or clean-up, when a second stump tie has been applied behind the first, as a safeguard against leaking.

NB Teach the TBA to boil 5 cord ties for each delivery — 3 for use and 2 in case of mishap — any cord tie that is dropped or otherwise contaminated should be burnt. The safe preparation and storage of cord ties needs discussion and practice.

Remind the TBA that if cord is not cut by a sterile instrument or infected material is applied, there is a serious chance of tetanus neonatorum occurring.

9 After the separation of the placenta, change the **centre card** in the Lydia pictures to the non-pregnant uterus B1 and remove the uterus bag. The placenta should be put ready for disposal according to local custom. Give the Ilfra doll to the mother to be placed at the breast for approximately two minutes. Having put the doll, wrapped in a clean cloth, in a safe warm place to await its clean up, discuss the importance of this immediate contact between mother and baby. This provides the two-way stimulation necessary for successful breast feeding and encourages strong uterine contractions which reduces the risk of post partum haemorrhage.



10 The mother should now be made clean and comfortable and the Lydia pictures allow for good simulation of this — lift the legs at the thighs or turn the piece on its side, to allow for the simulation of pouring water to cleanse the vulva. (The cooled water from the sterilising pot could be used for this) The TBA should form a habit of looking for a tear or injury to the perineum during the cleansing. A clean washed cloth can be used as a 'pad' for the mother.

11 Clean up the baby with oil and wrap it in a clean cloth.

It is suggested that the most intelligent TBA should be chosen for the first demonstration. After several complete deliveries have been simulated, pick out those elements which need special practice.

12 The TBA should encourage the mother to drink tea or coffee just after delivery. If the mother feels hungry, she should be given a light meal.

10 Post-Natal Care

The following points should be discussed with the TBAs:

1 **The return of the uterus to normal size and position within the pelvis**

Most TBAs are aware that the uterus should feel hard after successful delivery. 'Rubbing up' a soft uterus to aid the expulsion of any clots should be encouraged, but many TBAs carry out an over vigorous massage and manipulation, which should be discouraged.

The TBAs can be taught to check that the uterus is shrinking and descending towards the pelvis without taking any numbered measurements. A piece of string or straight, narrow piece of more rigid material about 8 ins. (20 cms.) long can be used. On the first day after emptying the bladder, the lower end of the measure should be placed on the top of the pubic bone and a mark made at the place where the top of the uterus can be felt. This marked piece of material should then be used in the same way each day and the mark should be lower each time. If this does not happen the TBA should be alerted that something is wrong.

Bad smelling discharge or the continuation of red blood after 4 days must also be seen as a danger sign.

Personal hygiene during this period is very important and the mother should be taught to practise self-swabbing by pouring clean water over herself after passing urine or stool. 'Pads' should be changed frequently. The mother should be told to urinate frequently since this helps in the involution of the uterus.

2 **Total body massage and steaming**

It is customary in many places for the TBAs to give the mother an aromatic hot steam after delivery, followed by a total body massage. This may provide comfort but sometimes the process is over-energetic and the mother is left limp and exhausted. This result should be avoided.

3 **Diet**

After delivery, the mother needs to continue the diet she was advised to take during her pregnancy. Satisfactory breast feeding and the energy needed to look after the baby properly, as well as to carry out her other duties, depends on this. There are many taboos against adequate feeding following delivery. Acceptable ways round them are more likely to be listened to than outright condemnation. The TBAs, once convinced, can be the most effective agents of change. Extra fluid is essential after delivery . This aids breast feeding and helps to rid the body of waste material through the kidneys, bowels and skin.

4 **Exercise**

A short period of complete rest for the mother immediately after delivery is advisable but unless she is ill she should get up and walk about within the first twelve hours. After this a combination of rest and gentle exercise out of bed is necessary. Some mothers begin heavy work much too soon and others are kept confined to bed for far too long. Fresh air for women who keep purdah or who, because of tradition, have been delivered in a dark place, is especially important.

5 **Breast Feeding**

See separate chapter. Mothers should be reminded that anything entering the baby's mouth must be very clean to avoid infection. This includes the mother's breast. Demand feeding stimulates the milk supply and provides early bonding between mother and baby. The breasts should be emptied at each feed. The baby should be put to the breast for the first time immediately after birth. This can be done even before the placenta is expelled and may aid the separation of the placenta.

6 **Things that may go wrong with the mother (needing referral)**

a **Haemorrhage**
Usually due to something having been left in the uterus. See that the bladder is empty since a full one delays involution which may be the cause of the haemorrhage. If the bleeding does not stop even after expelling any blood clots in the uterus, the mother must be referred immediately. Stress the need to give continuous fluid replacement until help is obtained. The baby should stay with the mother so that breast feeding can continue.

b **Fever**

The TBA should recognise this as a sign of infection generally of the uterus, urinary tract, breasts or blood clot in the leg.

All these conditions can be prevented and the trainer should link the cause and effect with prevention.

c **Mental disturbance**

Mothers with a previous history of mental disturbance after delivery are at particular risk of its recurring. Also women who show acute anxieties or phobias during the ante-natal period. The TBAs should be taught to be watchful. They can do much by giving continuous support to reduce anxiety, explaining the need for a reduction of stress to the family. Help with the baby is important. If it is in physical danger it must be looked after separately, but as far as possible the aim should be to build up gradually the mother's confidence in herself.

Professional help is necessary if the symptoms are acute, or the anxiety does not clear in two or three weeks.

If there is a newly-delivered woman in the village where the TBAs are having their classes, it may be possible to teach post-natal care by visiting her home. This should include care of both mother and baby. If no such opportunity arises at the desired time, a class discussion can be arranged, and a home visit used to reinforce this teaching later.

11 Care of the Newborn

The trainer should decide whether or not to continue the class with a simulation of the immediate care of the newborn. If it is decided, often for reasons of time, that it should be part of the next class, at least one occasion should be provided for the simulation of the delivery to continue with the demonstration of newborn care.

The simulation should begin with a reminder of the importance of wrapping the body snugly as soon as it is delivered, to avoid any loss of body heat.

Before the clean-up, the baby's whole body should be examined carefully and anything unusual should be brought to the notice of the parents, with advice about referral, if necessary.

How the baby is cleaned will depend on the local traditions which should be respected unless dangerous. Wiping gently, washing in water, oiling or a combination of these are common. The points that need stressing to the TBA in relation to each method are basically the same.

1 Work in as draught-proof an area as possible, in a cool climate, and expose the baby for as short a time as practicable. In hot climates protect from excessive heat.

2 Handle the baby gently; dab rather than rub and leave any protective vernix to scale off as it dries during the first week or so of life.

3 Light, rhythmic stimulation of the skin of the newborn deepens respiration and quietens a crying baby.

4 Having cleaned the mouth when the head was born, no further cleaning is necessary unless there are any breathing difficulties.

5 Each eye should be cleaned separately with clean swabs which have been dipped into cold water which has been boiled.

6 After the bath, put a second cord tie above the first, in case the cord has shrunk, to avoid the danger of bleeding. If there is a Health Services network capable of supplying any form of material to the TBAs, it should include a simple antiseptic preparation to put on the cord stump.

Stress the need to keep the cord stump dry. This is best achieved by leaving it uncovered open to the air. The prevalent idea that the stump hurts the baby and that, therefore, it should be encouraged to drop off as soon as possible, should be discussed along with the danger of tetanus infection resulting through moist unhealed umbilicus, if dirt or animal manure come in contact with it.

7 After the bath, put the baby again to the breast for a couple of minutes each side. These first contacts between the mother and baby initiate the breast activity that produces the milk. Discourage the giving of honey, sweetened water, animal milk or tea which could cause infection and in any case is not needed.

For the period that the mother remains mainly in bed, the baby should be placed to sleep near to her, so that she can feed on demand (Afterwards, the baby should have fresh air to breathe and be protected from mosquitoes, flies, other infection and accidents).

8 The TBA should be aware of the need to watch the colour of the baby, the ease of its breathing and the passing of urine and stool within the first 24 hours.

Babies requiring Special Care at Birth

The following signs in the first week of life indicate that a baby is at risk and should be referred, as soon as possible:

- Limpness, acute pallor or blueness.
- Breathing difficulties/noisy breathing.
- Acute restlessness or fits.
- No stool passed within 24 hours of birth.
- No urine passed within 24 hours of birth
- Very feeble or very shrill cry.
- Vomiting (not regurgitation).
- Failure to suck or swallow.
- Mucus coming from the mouth after it has been cleaned.
- Hard, distended abdomen.
- Jaundice.

- Bleeding of any kind.
- Badly discharging eye.
- Very sunken or very bulging anterior fontanel.
- Very small or extremely large baby.

The TBAs need to be able to recognise these signs and to accept a responsibility for advising the family to seek help. They also need to be taught how to advise on the care of a healthy, low birth weight baby in the home.

Low Birth Weight and Preterm Babies

It will generally be difficult for a TBA to differentiate between a low birth weight and a preterm baby but most will recognise a small or immature baby. Few will know what special care should be given. If the baby is small but vigorous, more frequent feeds will be the main need. If the baby is very small and feeble it should be treated as premature.

The temperature of a pre-term baby is unstable and should be maintained by:

1 Wrapping it from head to foot in a thin, soft, cotton cloth covered with woollen clothes or a woollen blanket (if a woollen blanket is not available, pack cotton around the baby, between layers of thin cloth) making sure that it is not so heavy as to stop the breathing.

2 Keeping it very close to the mother's body and away from draughts.

3 When the weather is cold, raising the temperature of the cradle by:

   a using hot water bags or bottles, hot stones or bags of hot sand, taking great care to keep them away from the baby, by wrapping them in thick material and placing them outside the blanket away from the baby.

   b If electricity is available, two 60 watt electric light bulbs could be fixed at the ends of the cradle outside.

4 When the weather is hot, putting a minimum of clothing on the baby and keeping windows open. If the room is still too hot, use hand or electric fans. To increase humidity hang a wet cloth or place a bowl of boiling water near the cradle, making sure that there is no chance of accidental spillage.

Low birthweight and preterm babies should be handled as little as possible. They need maximum rest and are best kept with the head slightly lower than the body. Care must also be taken to keep the head on one side to avoid the risk of vomit or regurgitation entering the trachea.

Bathing should be avoided but occasional very gentle warm oiling may be allowed. Great care must be taken whenever attention is given to the baby, to prevent any physical exhaustion, loss of heat or possible infection.

NB Local methods of bathing and oiling vary but are rarely the same as those used by the Health Services Staff. Attempts to change the local method are unwise but care should be taken to see that they are safe. For example, in many places the baby is bathed and oiled lying on the outstretched legs of the mother, with its head on her feet. This is entirely acceptable if the mother's feet have first been washed.

Premature babies should be breast-fed or given milk expressed from the mother's breasts into a sterile container. If the mother's milk is not available, then milk expressed by another nursing mother should be boiled and given to the baby. If no human milk is available, then half diluted cow's or goat's milk can be given in a spoon, dropper or some locally used spoon-like utensil. Remind the TBAs that because premature babies are very susceptible to infection they must, before giving a feed, wash their hands carefully, boil the milk and check that all utensils have been sterilised.

NB Before giving any expressed breast milk, the baby's swallowing reflex must be tested with one teaspoon of boiled water given a drop at a time.

12 Care of a Baby with Breathing Difficulties at Birth

In most areas, the TBAs have local time-honoured methods of dealing with a baby that fails to breathe properly at birth, generally involving some safe-guarding rituals, because of the high failure rate. What is done is usually based on the idea of forcing life back into the baby. One of the most common ideas is that since the placenta contains the 'life' for the baby before birth, this continues to be so after birth, and so 'life' must be forced back from the placenta, when expelled, into the baby (traditional practices like stamping on it, boiling or roasting it while still attached to the baby, are done by TBAs for this reason).

It may be difficult for the TBA to understand the importance of mouth-to-mouth resuscitation but, if it is explained that the TBA has 'life' in her own breath which she can share with the baby, the technique can be incorporated with the harmless rituals in common practice, e.g. sprinkling the baby and reciting charms. It is essential to stress the urgency of the situation: if possible, the rituals should be left to someone other than the TBA.

Points that must be stressed in the teaching:

1 Success depends on getting the air to the baby quickly.

2 Air can reach the baby only if the passages from its mouth and nose to its lungs are clear.

3 A baby's lungs are small and delicate and so the breath from the TBA must be given in small puffs from the cheeks rather than a forceful blow.

4 When the baby's lungs are full of air, the chest can be seen to rise up. When they are empty, the chest goes down and more air must be breathed into the baby by the TBA. This process of breathing into the baby and watching for the lungs to empty must be continued until the baby begins to do it for itself, or it is admitted that the baby has died.

How to Teach Mouth-to-Mouth Resuscitation

1 If the baby fails to breathe properly, mouth-to-mouth resuscitation should be given. At birth, wrap the baby in a clean cloth to maintain its temperature. The problem for the trainer is that generally TBAs cut the cord only after the placenta has been expelled, therefore the importance of cutting the cord off the non-breathing baby **immediately** has to be stressed. Emphasize the need to cut between the ties and put the mother's cut end into something sterile. If the TBAs get into the habit of always making two ties, they will not fail to do so when working under pressure.

2 If possible, place the baby with its head at the edge of a chair seat, or low cupboard top, firm box, bed or bench (if nothing is available, the TBA must place the baby across her raised knees while she is seated on the ground, but this is not as satisfactory).

Tilt the baby's back, with the jaw (chin) down to open the airway, and clear the mouth and throat, as low as possible, of any secretions using a piece of clean rag wrapped round the little finger. The nostrils should be cleared as high up as possible with a damp twisted piece of rag (the TBA will have no means of sucking out).

Although the Ilfra doll has a solid head, it is possible to simulate these actions by holding the head correctly fingers of left hand pulling head back and thumb pressing down on chin. The cleaning movement can then be made realistically with the right little finger in front of the doll's mouth, and a twisted piece of damp rag can be screwed up with the correct motion.

3 Make sure that the TBA is at the right height in relation to the baby, i.e. standing if a table is used, kneeling if the baby is on a chair or bed.

4 In the simulated demonstration, open the cloth wrapper around the baby just enough to make the chest visible. Then take a deep breath and give 3 short puffs over the **nose and mouth** of the doll. Indicate the rise and fall of the chest with an upward and downward motion of the hand and continue the process at the rate of 18 puffs a minute (i.e. 6 deep breaths for TBA) for at least half that time.

5 Teach the TBAs the technique of breathing, i.e. using the inside of an arm of each TBA in turn, demonstrate how a

large breath is taken and divided into three separate puffs. The TBA should then copy using the trainer's arm. This will usually need to be repeated several times before the TBA gets it right. If the TBA cannot understand what is required, breathe onto her arm, then ask her to breathe onto it herself and see if she can feel any difference.

It may take several classes before the technique is really mastered, especially as the really old TBAs have difficulty in controlling their breath.

6 When the technique of breathing has been mastered, the whole process should be put together by the TBA using the doll. (In some areas, the TBAs have shown much pleasure in making a doll similar to the trainer's. This greatly facilitates the speed of practice and keeps the trainer's doll in better condition. If only one doll is available, it may be felt necessary to protect the face in some way, since it is important that the TBA gets the feel of clamping her lips over the nose and mouth tightly.

7 After it has been decided that breathing has been established in the baby, demonstrate the careful handling and positioning of the baby with the head and shoulders raised and body on the side. The baby should be turned from side to side about every two hours.

13 Breast Feeding

Breast Feeding is best feeding. It provides proper nutrition, protects against infections like diarrhoea and promotes sound emotional development. Preparation for its success must begin with extra attention to the health and nutrition of the ante-natal woman. There are no contra-indications to breast feeding. It is economical and saves the family a lot of time, in not needing special preparation.

Breast feeding should be continued as long as possible up to two years, or more. The addition of semi-solids and solids between four and six months is important since from this time the mother's milk alone does not provide adequate nourishment and after six months the baby is deficient in iron.

The TBAs have a specially important role to play in the secure establishment of breast feeding and the subsequent widening of the diet.

The following notes are provided as reminders for the trainer to use in helping the TBAs to give mothers the right ante-natal, post-natal and continuing support for adequate breast feeding.

1 A sound nutritional state and attendant good health during pregnancy is basic for the growth of the foetus and later for breast feeding of the baby as well as for the woman's own health.

2 During pregnancy, the nipples should be gently pulled out and oiled after thorough washing. Any dried secretion will thus be removed and the skin of the nipples kept supple and clean. From mid-pregnancy the ducts should be kept open by a gentle squeezing of the breast to express a drop or two of early colostrum. Flat or inverted nipples can be pulled out if pressed with the two thumbs, or thumb and index finger at the junction of the nipple and the breast. A safe lubricant, such as sweet oil, on the fingers will be helpful. This action should be made every day preferably after washing.

3 Care should be taken to recognise during pregnancy any women who are likely to have difficulties with breast feeding so that if the problems are due to economic or health reasons, preventive help can be sought and community resources identified at an early stage.

4 Find out the TBA's attitude to colostrum. It is a special, readily digestible form of breast milk and must be used. Many people are misled by its thick and yellowish appearance into thinking that it is a waste product. So it needs to be stressed that it is a high concentration of nutrients, especially protein and antibodies. It is provided for the baby's use immediately from birth until replaced by the true milk within two to five days, and has several special functions:

   a It provides the baby with the nourishment needed at this time.

   b It contains a laxative that helps clear the baby of its meconium.

   c It is high in antibodies (protects the baby from infection, e.g. diarrhoea) Immediately after birth this protection is as important as food.

   The TBA should discuss the baby's need for the colostrum with the mother before delivery. If there are strong local feelings of taboo, place stress on the very important point that the breast milk comes in through the stimulation of the baby sucking, and this stimulation should begin immediately after birth.

5 The point that the breast milk is secreted in response to stimulation from the baby's sucking cannot be over-emphasised. To this end, demand feeding, as practised naturally by most village mothers, is very important. The idea that missing a feed will provide more milk for the next is completely false. The more feeds are missed, the worse the milk supply. For the same reason, both breasts should be used at every feed and the need to empty the breasts remembered. Alternate breasts should be used first at each feed.

   The baby should be put to the breast immediately after delivery. There is no need to await the cleaning up of either mother or baby before this is done. In fact, if the baby is wrapped up and given to the mother while the placenta is awaited, the baby's sucking encourages a

contraction of the uterus and aids separation of the placenta and reduces after pains.

There is no need to give sugar-water or milk substitutes to tide the baby over until the milk supply is fully established. This practice has led to unsatisfactory establishment. The baby's urge to feed must result in vigorous sucking at the breast to provide the right stimulation. If the urge is answered by a breast-milk substitute, subsequent sucking will be half-hearted and the milk 'let down' further delayed, and the substitutes can cause infection if proper cleanliness is not observed.

6 Lactating mothers need to have a balanced diet and should be as well fed as possible, not only during their pregnancy, but after delivery and throughout the breastfeeding years. The TBA, if convinced of this need, is the person most able to persuade the family to change the detrimental post-natal food restrictions that are common in some areas.

7 Breast feeding establishes a special relationship between the mother and baby. It provides for a closeness that allows for touching, warmth, looking and smell, as well as the satisfaction of hunger, and if successful gives the baby a feeling of security and love. On the mother's part there should also be relaxed enjoyment.

Situations that need Special Attention

A normal full-term baby generally feeds well without any difficulty. If there is a tendency to regurgitation, the baby's wind should be brought up several times as the feed progresses. Where no such difficulty exists, bringing up the wind at the end of each feed should be sufficient.

A low birth weight or pre term baby is often rather lethargic and provides weak stimulation. Such babies should be fed at frequent intervals and gently roused beforehand. Babies may stop feeding due to stuffed-up noses or to the fact that their nose gets jammed against the breast. This can be avoided if the mother places a finger between the nose and the breast while still holding the baby close. The mother should, in addition, be taught how to empty her breasts by hand at the end of each feeding, to give the expressed milk with a spoon.

Care must be taken to see that the baby sucks well onto the breast from behind the areola, and not just onto the nipple, which leads to soreness. Every effort must be taken to prevent this. The nipple skin should be kept soft to avoid cracks.

Short, or flat nipples should be pulled well before the baby is put to feed. Since the breast is being put into the baby's mouth, special attention must be given to its cleanliness.

Engorged breasts are usually due to blocked milk ducts. Teach the TBAs to watch for any sign of lumpiness or tenderness and to take immediate action. The baby should be put to the breast more often for a shorter period and any remaining milk should be expressed by hand.

Dangers of Artificial Feeding

Until fairly recently, breast feeding was taken for granted by TBAs and the population in general, but there are now many influences that are upsetting this: the growth of towns in which women are working away from their home area and so are unable to have their babies with them; the insidious advertising of infant foods as something special; and the underlying implication that bottle feeding is socially more acceptable.

If the mother really cannot breast feed for some reason, a wet nurse is preferable to artificial feeding. If this is not possible, the safest method of feeding is with cup and spoon or equivalent which is practised locally. The mother or mother substitute must be taught very carefully how to prepare the milk and how to feed the baby safely with hygienic precautions:

1 Cup and spoon should be boiled in the same way that the TBA has been taught to sterilize her equipment.

2 Careful washing of the hands before beginning the preparation of milk.

3 The milk mixtures should be prepared hygienically and for one feed each time.

4 Boiled water should be used for preparation of powdered milk or for dilution of other milk.

The TBAs and family should be helped to understand that

the risks of artificial feeding are first in the receptacle used and teat, secondly in the milk and thirdly in the method of giving the milk — **artificial feeding spells danger.**

1 Even in the most careful homes, it is very easy for bottles and teats to become contaminated with germs which cause diarrhoea — the main cause of death in young babies.

2 The substitute milk is easily contaminated with unsafe water when the feed is being prepared, again leading to diarrhoea.

3 Only breast milk contains the substances that are specially provided by the mother's body to help protect the baby from infection.

4 Substitute milks are expensive and when prepared are often not made up to the right strength. When this happens the baby does not grow properly.

5 Bottle-fed babies often swallow a lot of air, which upsets their digestion; if left alone with the bottle, they also lack the close contact of breast feeding that is important for their emotional development.

The TBA should only teach about feeding of milk other than breast milk if it is absolutely essential and then only to the family involved. She should never talk about it to a group of ante-natal mothers. Every effort should always be made to breast-feed the young baby.

The TBAs can be asked to find out how much it would cost a family in their area to feed a three to four month old baby for a week with powdered milk or liquid cow's milk. The cost must include the feeding equipment, cleaning things, and fuel for boiling, as well as the actual milk.

It may be assumed that a three-month old baby needs 1 pint or ½ litre of milk mixture a day, made of ¾ full strength milk and ¼ boiled water.

At four months, about 1½ pints or 750ml. of full strength milk will be needed without any dilution.

The cost should then be viewed against the daily or weekly wages in the area.

Possible local alternatives to cow's milk should be discussed, eg. soya milk, ripe banana.

These calculations should reinforce the truth of the statement that there is no real substitute for breast milk.

14 Diarrhoea, Dehydration and Oral Rehydration

The TBAs' experiences of diarrhoea and dehydration in babies and adults should be exchanged within the group. The teaching should then be built onto or into this discussion.

Diarrhoea

What is Diarrhoea?
Diarrhoea is the passing of frequent loose or watery stools.

What causes Diarrhoea?
Acute diarrhoea is caused by infection of the bowel by germs that cannot be seen. It is severe and usually lasts several days.

Chronic diarrhoea is caused by malnutrition or worms, as well as by germs. It may last for weeks or months.

Why is Diarrhoea Dangerous?

1 In diarrhoea, water and salts are lost from the body and if these are not replaced, the person may die. This condition of fluid loss is called dehydration and it is this that is so dangerous.

2 Diarrhoea causes malnutrition (and malnutrition causes more diarrhoea).
   - a Food is lost from the body
   - b There is no appetite
   - c Mothers **wrongly** stop food when diarrhoea begins and this increases the risk of malnutrition
   - d Malnourished children are more likely to have diarrhoea.

What can the TBA do to prevent diarrhoea?

Teaching aimed at the prevention of diarrhoea is essential. Correct treatment may reduce mortality but it will not reduce the incidence of cases or a high proportion of resulting morbidity.

Encourage TBAs to:

1 Help all mothers to breast feed their babies and give them extra plain, boiled water from a clean container with a clean spoon. It is good to continue breast-feeding for at least two years.

2 Teach families to add semi-solids and solids to the breast-feed after four to six months, so that the baby will be well nourished (malnutrition predisposes to diarrhoea).

3 Teach families the danger of dirt, or stools contaminating hands, water or food, so that they will build and use safe latrines; wash their hands thoroughly after passing or disposing of stools and take all possible precautions to destroy flies' breeding places. (Children are the main sufferers from diarrhoea, and also probably the main source of infection, since there is a general false idea that their stool is fairly harmless. It is often allowed to contaminate beds and household linen used for other purposes, and is poorly disposed of; in consequence, infection from it is carried to food by hands, flies and wind).

4 Teach the importance of food hygiene, especially:
   - a Washing hands before preparing or eating food.
   - b Taking water for kitchen use from a safe place, and preventing its contamination in storage; boiling drinking water, if practicable exposing water to sunlight to reduce contamination.
   - c Covering all food from flies, and cleaning children's faces and hands after feeding to prevent flies from settling on them.

Dehydration

How will the TBA know that an Infant is Dehydrated?

Signs of Dehydration

- Sunken soft spot on top of the head.
- Sunken, tearless, staring eyes
- Loss of stretchiness of the skin (stays up for several seconds when pinched)
- Dry mouth
- Little or no urine
- Wizened, ie. looking like an old man
- Obvious loss of weight

Rehydration

What can the TBA do, if she finds dehydration?

Teach the family to make and give rehydration mixture.

The equipment required to do this is:

- 1 bottle or container, as found in most local homes, to hold ½ litre or 1 pint.
- Sugar — white/brown or honey or jaggery
- Salt
- Wide-necked vessel or bowl to hold some fluid to dissolve sugar and salt.
- Stirrer
- Boiled water (if not readily available, water from the cleanest source should be used. The bottle of made-up mixture should, if possible, then be placed in the sun for 2 hours before using. This has been found to kill faecal bacteria which cannot be seen with the naked eye, even in heavily contaminated water).

Method

1 Measure the equivalent of ½ litre (or one pint) of water into the container.

2 Pour some of this water into the wide-necked vessel and add as much salt as can be held between 2 fingers and thumb (equivalent of ¼ teaspoonful).

3 Stir until the salt is dissolved.

4 Add as much sugar as can be held between the curled fingers and palm of the hand and stir this until it dissolves (equivalent to 1 rounded tablespoon).

5 Add the resulting solution to the remains of the original ½ litre or 1 pint and shake or stir well. Where more fluid is immediately required, adjust the quantities accordingly.

The method chosen for making the measurements should be the one most readily available locally. Special plastic measuring spoons have been manufactured but these are unlikely to be available to the majority of TBAs.

In areas where 'Chinese type' spoons are used in every home, the salt may be measured as half a digit inside the top end of the handle of the small-sized spoon and the sugar as two rounded spoonfuls. In countries where western spoons are used, the measurement is ¼ teaspoon of salt and 1 rounded tablespoon of sugar.

NB In some countries ¼ teaspoon of salt and ¼ teaspoon of soda bicarbonate (cooking soda) is used. This may be taught if the ingredients are readily available in local kitchens.

Each TBA must be able to demonstrate the making of a bottle of rehydration mixture and explain its importance to her families.

After teaching the method of preparation for the first time, give each TBA a little to drink. Most are pleasantly surprised by its taste and this helps to convince them of its value. The TBAs should be taught always to taste the mixture, to make sure that it is no saltier than tears. If it is, more water is needed because too much salt is dangerous.

Explain that the quantity of rehydration mixture to be given is important and most people need to be pressed to take enough. A baby or small child needs at least 1 litre a day; an adult 3 or more litres a day or 1 large tumbler for every watery stool. If there are signs of vomiting, small sips at 3 – 5 minute intervals may be best. Always give a large drink, slowly, after each diarrhoea stool — so that what has been lost is replaced at once. In areas where water from the tender coconut or rice water is readily available it can be given in addition to the rehydration mixture.

If the area has packets of rehydration mixture for distribution the TBAs might be given a supply of them. In this case they should be taught to boil the required amount of water for one packet (usually a litre). The contents of the packet should be dissolved in a litre of water while still warm and then added to the rest.

How to Teach the TBA to Teach the Family that Oral Rehydration is important

A Many TBAs and the families they serve appreciate a well-established method of illustrating the danger of fluid loss and the importance of its replacement, by using two small empty tins with a small hole bored in the bottom of each.

These two tins represent two babies with diarrhoea.

Equipment required for this teaching:

- 2 empty small equal sized tins with a small hole in the bottom.
- Container of water with dipper or pourer.
- Waste water receiver, unless teaching is out of doors.

Objective

To make the following points dramatically:

1 A baby's body is full of fluid.

2 With diarrhoea the fluid is lost.

3 If the fluid is replaced as it is lost, the baby will recover. This means that fluid replacement must be given for as long as the diarrhoea lasts.

4 If the fluid is not replaced the baby will die.

Method of teaching

1 Fill both tins with water keeping a finger over each hole at the bottom.

2 Hold up one tin in each hand, with the explanation that these are the two babies whose bodies, like all living beings, are full of fluid.

3 Release finger and water pours out – both babies have diarrhoea.

4 Ask an assistant to pour water slowly into the top of one tin to keep pace with that being lost at the bottom – this mother knows what to do: she replaces the lost fluid immediately and also continues breastfeeding: the other mother stops all feeds and gives no extra fluid, so her baby becomes dryer and dryer in its body since all the fluid is being lost as diarrhoea.

5 As soon as the one tin is empty, sum up what has been demonstrated, e.g. "See the diarrhoea has stopped because there is no more fluid to lose but the baby is dead." Emphasize this by relaxing the body and crumpling up in a forward direction.

Then, draw attention to the other tin, which is still being filled to keep pace with its loss – "See, this baby still has diarrhoea, but the body is still full of fluid, so it should get well. After a while the diarrhoea will usually stop if the mother continues to breast-feed and replaces the fluid loss with special rehydration mixture.

6 Replug the hole with a finger on the bottom, to show that the diarrhoea has stopped and the baby remains full of fluid.

B Another method of teaching the relationship between dehydration symptoms and fluid loss is as follows

1 Take a small, clear plastic bag with no tear or hole in it and draw a picture of a baby on one side with a felt pen covering as much of the bag as possible, so that the bag becomes a baby. Fill the bag with water. The picture of the baby will now be well-rounded like a healthy child.

2 Now make a small hole in the lower part of the bag. As the water flows out the picture will become wrinkled – this shows what happens to a child who has diarrohea, loses fluid and becomes dehydrated.

3 If the bag is now held so that water can be poured in faster than that which is escaping through the hole, the picture will again look well-rounded. This illustrates what happens when rehydration mixture is given, even though the diarrhoea continues.

4 If sticky tape is now stuck over the hole to show that diarrhoea has stopped, the baby remains round and chubby. It is now no longer necessary to continue with the rehydration mixture.

Recognising Dehydration

CHILD HAS DIARRHOEA? – IS DEHYDRATION PRESENT?

The following Table may be useful in helping the trainer to teach the TBA how to decide whether anyone with diarrhoea is dehydrated or not, and what to do about it. It is NOT meant for direct teaching to the TBA.

Action ▽		Answers suggesting there is no dehydration	Answers suggesting there is mild dehydration	Answers suggesting there is severe dehydration
Ask about	Diarrhoea	Less than 4 liquid stools a day	4-10 liquid stools a day	More than 10 liquid stools a day
	Vomiting	None or small amount	Some	Very frequent
	Thirst	Normal	More than usual	Unable to drink
	Urine	Normal	Small amount – dark	No urine for 6 hours
	General condition	Alert & reasonably well	Unwell, miserable, sleepy or irritable	Very sleepy, floppy, unconscious, having fits
Look at	Eyes	Normal	Sunken	Very dry and sunken
	Mouth & tongue	Wet	Dry	Very dry
	Breathing	Normal	Faster than usual	Very fast and deep
	Weight (if scales) are available)	No apparent weight loss	Looks as if there is some weight loss	Wizened 'old man' appearance and obvious loss of weight
	Fever present	No	No	High fever
Feel	Skin	Pinched skin goes back quickly	Pinched skin goes back slowly	Pinched skin goes back very slowly
	Soft spot (Anterior Fontanelle)	Level	A little sunken	Very sunken
Decide ▷		△ **If these are the answers:** No dehydration is present. **GIVE** **1** Rehydration mixture to prevent dehydration **2** Continue normal feeding	△ **If 2 or more of these are the answers:** There is dehydration. **GIVE** **1** Rehydration mixture to treat the dehydration & continue it till dehydration has stopped	△ **If 2 or more of these danger signs are the answers:** There is severe dehydration and a **very dangerous condition.** **If child is Conscious** **GIVE** Rehydration mixture in small sips as frequently as possible to stop the condition worsening. **TAKE OR SEND** the child as quickly as possible to a Health Centre or other treatment facility – the rehydration mixture must be given on the journey while the child remains conscious

(This table is based on that originally produced in *Guidelines for ... Health Workers in Nutrition*, Geneva, 1981

15 Common Ailments of Childhood

The TBA is often the nearest source of health advice for the villager. Like every other health worker, she should teach the rules of healthy living by the example of her own and her family's behaviour. In addition, if she is able to give safe guidance to prevent small things becoming worse and to alert the family when danger signs are present, she will be increasingly valuable to her community.

How much and what the TBA should be taught will vary according to local need and circumstances, and the abilities of the TBAs themselves. **The following suggestions cover the most basic situations and are aimed to help the TBA give simple, safe and appropriate support.** Since a successful Primary Health Care system depends on knowledge and willingness to refer when necessary, this aspect of the teaching is very important. All teaching, however, must be based on the reality of the local situation. If the nearest point of referral requires a long and difficult journey, careful consideration will need to be given to the 'life or death' situations that must be referred and how this is to be done. The TBAs, and those responsible for dealing with emergencies should be brought together during the teaching, if possible, to discuss the procedure and the support the TBA should be able to expect.

Probably the commonest and most serious condition that the TBAs will meet is diarrhoea and dehydration. This has been given a section on its own in this manual. Serious diarrhoea is usually associated with malnutrition and this also has been covered with the feeding of babies and young children.

Respiratory Conditions

Respiratory infections are common and may be serious, especially in very young children. Presenting symptoms which require medical attention:

1 Noisy, rapid or difficult breathing

2 Fever

3 Listlessness

4 Unwillingness to feed

Remind the TBAs that breast-fed babies are less vulnerable to respiratory infections because of the protective substances (anti-bodies) found in the breast-milk. For the same reason, they have a better chance of good recovery should they become infected.

Take the TBAs to visit any cases of respiratory infection to demonstrate effective care.

Points to remember about looking after a young child with a respiratory infection

1 Coughing is the way the body removes mucus or germs in the lungs and throat, so it is generally unwise to give things to stop a cough. Treatment should aim at getting rid of the mucus. For example, the following mixture may help:

1 part honey or raw sugar or jaggery 1 part lemon or like juice ¼ part garlic juice	1 teaspoonful every 2-3 hours if coughing is severe

For a dry cough, offer:

½ teaspoon Turmeric powder 1 teaspoon sugar	give in warm water, or milk before going to bed

2 Extra fluid is essential (if there is belief that water being 'cold' should not be given in respiratory conditions, the 'coldness' should be overcome by the addition of a little honey or raw sugar). Water can be more important than medicine.

3 A baby's feed should be continued as usual. If its nose is blocked the baby will have to breathe through its mouth and will not be able to suck. Moreover small babies cannot breathe through their mouths. Clear the nasal passages before feeding and during the feed if necessary using a twist of cotton material dipped in a lubricant such as ghee. A solution of 1 teaspoonful of bicarbonate of soda (sodium bicarbonate) to a pint of water, or one pinch between the thumb and two fingers in a large mug or glass, is very helpful in dissolving mucus if a few drops are dripped up each nostril after cleaning. Alternatively, salt in the same strength of solution may be used.

4 Breathing is easier in a sitting position. The baby or young child needs to be well propped up.

5 If humidity is low, the area around the patient should be kept as humid as possible. A pot of steaming water placed near the patient is effective but dangerous. It is safer to hang wet cloths near the cot. Relief may also be given with a simple inhaler of local aromatic leaves. The child should be held on an adult's lap, and a covering placed over both their heads.

6 If the child or baby has a loose cough, hold it firmly round the lower chest, in a forward bend position during a coughing bout, to help bring up the mucus.

7 If the cough is accompanied by a whoop causing the child to vomit, give another feed rather slowly after the coughing and vomiting has finished.

Remind the TBAs that the triple (DPT) injection will help to guard children from getting whooping cough.

Since whooping cough is particularly dangerous in young babies, it is important to keep them away from anyone suffering from the disease. It is very much easier to isolate the baby who is not infected than to try and isolate the toddler or older child who is!

8 Any adult having a continuous cough for more than a month should, if possible, be notified to a senior health worker. A clean specimen of sputum should then be taken by the health worker for examination.

Digestive Upsets

Vomiting helps to guard children against serious digestive disturbances. As long as the vomiting does not continue once the stomach is empty, it is rarely serious. Give fluid only for about two hours, and then light food if the child is willing. Provided that fluid is taken it does not matter if the child misses the next meal. Always continue breast feeding.

If vomiting continues after the stomach is empty of food, help should be sought. Until this is obtained all fluid loss must be replaced with rehydration mixture. This should be given in small quantities at a time.

NB • If soda bicarbonate is available add ¼ teaspoonful to a pint of the rehydration mixture.

- If the vomiting accompanies diarrhoea, see Chapter on diarrhoea.
- Any baby or young child who **vomits** regularly after a feed, especially if this is projectile, should be seen by a doctor as soon as possible.
- The distinction must be made between vomiting and regurgitation.
- Most TBAs will know of a soothing drink that helps to reduce nausea and relieves vomiting, e.g. tender coconut water. This may be given as a fluid replacement.

Rashes

If there is fever with a rash or soreness of the eyes, the condition should always be taken seriously and expert help should be sought wherever possible. The condition is most likely to be the start of an infectious disease. (See also Home Nursing Section for the treatment of 'fever').

Skin Conditions

Frequent washing of the body, with good friction, and reasonable changing of clothes and bedclothes will reduce the incidence of skin infections and infestations. This is very difficult in places that are very cold, or where water is very scarce, and the best use of washing opportunities and scarce water should be discussed.

Skin infections

A short discussion on the importance of the skin as a total protective covering for the body leads easily on to what may happen if this is broken. Dirt, dust or flies may infect the open skin, which then becomes red, painful and swollen. Using any local person suffering from an infected skin condition, demonstrate the giving of a hot soak, i.e. soak the affected part in hot water, to which has been added approximately 1 teaspoonful of salt, if available, to the litre of water. Anyone suffering from a stye can be used to demonstrate hot steams. If no actual cases are available, ask one member of the group to simulate having an infected hand or finger, so that the necessary hot soak can be carried out, together with inspection for red streaks and enlargement of glands. All equipment used must be available in the typical home, and the whole procedure performed as if taking place there.

NB Tetanus is not a skin infection, but this is a good opportunity to remind the TBAs of the danger of getting earth or manure into broken skin. Emphasize the need for cleanliness and anti-tetanus injections.

Skin parasites — scabies

If benzyl benzoate or sulphur is available, teach the TBAs to apply it safely. (Alternatively, for adults and older children with unbroken skin, a sheep or cattle dip called Lindane (containing gammexane) can be used, 1 part to 15 parts vaseline, or 4 drops can be put on ½ a lemon, left for five minutes and then rubbed all over the affected skin. A thorough bath should be taken the next day. Stress the importance of treating the whole family and washing all clothes and washable bedding to prevent reinfestation. Bedding that cannot be washed should be well-aired and sunned.

Nettlerash, stings and non-specific itchings

These are often relieved by cold. Tell the TBA to soak the affected part in clean, cold water or to apply cold compresses. Cold water also relieves the pain of a burn or scald. (See First Aid). Local leaves with soothing properties, like neem, may be used to reduce itching.

At night, tie loose cotton bags over the hands of babies and young children who scratch themselves.

Bites and septic spots

If the TBAs can be supplied with one of the analine dyes, teach them to use it in the prevention of infection by painting spots and raw skin areas as soon as they appear. If there is oozing, soak off the scab and apply the dye. If the scab is dry it is best left alone and the paint put on the surrounding skin.

Fits or Convulsions

Village communities tend to be frightened of fits and to associate them with spirit possessions of various types. It will, therefore, be helpful to discuss these ideas with the TBAs, so that they can help the family to treat the patient safely.

The following points should be taught:—

1 Put something soft but firm between the teeth to prevent the tongue being bitten or 'swallowed', eg. a cloth-covered piece of soft wood, knotted thick piece of cloth, corn cob, or padded spoon.

2 Remove any near objects that might harm the person having the fit.

3 Turn the head to one side, so that anything in the throat or mouth may run out — in the case of a baby, lower the head a little.

4 Give **NOTHING** by mouth until consciousness has been regained.

5 Keep the patient quiet in a darkened place but with a good flow of fresh air.

Very high temperatures and dehydration, especially in young children, may result in fits. How to deal with both has been discussed elsewhere in the manual. It may be possible to prevent the fit from occurring by bringing down the child's temperature. (See the Home Nursing Section for methods to reduce fever).

In the case of dehydration and a fit that is prolonged, the rehydration mixture may be given as a retention enema, until consciousness has been regained.

16 Simple Home Nursing

What to teach will depend to some extent on the local situation. Whenever possible, simple nursing care should be demonstrated in a home where the particular skill will be useful to the family, as well as the TBA. By teaching what to do an actual situation, a true problem solving approach can be shown.

1 **Making a sick person comfortable at home**

a **Personal hygiene needs** — Stress importance of:
- keeping the mouth moist and clean and the lips well-greased to prevent cracking.
- daily washing, care of hair, attention to nails
- adequate facilities for passing stool and urine and cleaning up afterwards and for safe disposal of urine and stool

b **Positioning while ill, encouraging movement** — Emphasize that:
- the sick person should be nursed in the most comfortable position with adequate support but able to move (eg. those with breathing difficulties should be set up with or without something to lean on, or with something to push the feet against).
- the sick person should move about in bed and should get out of it for at least a short time each day, even if this can only be done with help.
- the need for the sick person to feel part of the family can be met by arranging that his bed or chair faces the area of greatest activity — the young sick child is best nursed in a large basket that can be carried from place place with the adult in charge.

c **Prevention of bedsores** — Stress that:
- any area of skin which has pressure on it for a long period of time becomes sore (e.g. buttocks, heels, shoulders). For this reason, there must be constant changes of position, and the very weak or paralysed must be moved every 1 — 2 hours
- gentle massage of the pressure areas helps to promote circulation and keep the skin healthy, keeping the skin dry is important.
- the sick person should be nursed on a soft surface where available — a sheep or soft goat skin is ideal.
- if the pressure area becomes red or broken, an ointment containing castor or cod liver oil, or a poultice of ripe papaya (paw-paw) can be very useful.

d **Comfort and relief of pain** — Emphasize that:
- pain which persists should be treated by an expert, but much can be done to make a sick person more comfortable.
- sleep may be aided by various factors:
  - i the right position
  - ii empty bladder and bowel
  - iii the right amount of clothing
  - iv a warm or cool drink, or light, easily digested meal
  - v a quiet talk about anything on the sick person's mind, or about happy, calm things
  - vi actions that suggest that the sick person is loved wanted and safe, e.g. a child may be nursed to sleep
  - vii local pain relief methods may be very effective
  - viii Aspirin, if available, may be considered a safe and useful short-term pain reliever

e **Keeping the patient warm or cool enough to be comfortable**

2 **Feeding sick and helpless people** — Stress that:
- sick people need fluid first, and then food to help them overcome the illness and regain their strength (discuss the best local foods to provide easily-digested concentrated nourishment).
- breast feeding should never be stopped during a baby's illness.
- sick people's appetites may need to be tempted — small, frequent meals are best.
- the helpless and young need to be fed and helped to drink — this often takes patience.
- mouth care is essential, if the sick person is to eat properly.

3 **Reducing Fever**

a Fever is a sign that the body is fighting an infection. Since fever weakens the body it should be reduced. A high fever that will not come down is very dangerous, especially in a child, because it may result in fits —

these may affect the brain and cause the child to die. For such high fevers, help should be obtained whenever possible.

b Washing all over the body with cold water will help to keep the person comfortable and to reduce the fever, especially if the skin is allowed to dry of its own accord by evaporation. Stress the importance of this cold washing as it may conflict with local beliefs.

c If the fever is very high, place ice (if available) in a cloth or plastic bag, or cloths wrung out in cold water on the patient's head.
If this is not effective, wrap the whole of the person's body in a sheet or similar piece of material wrung out in cold water. Repeat this until the heat of the body no longer dries the wet wrapping.

d Fresh air, a breeze or an electric or hand fan all help to lower a fever without causing harm.

e Cover anyone with a fever only with very light clothing or bedding — or with nothing at all.

f If available, 2 tablets of Aspirin for an adult, or half a tablet for a child, may be given with plenty of water every four hours until the fever is reduced. Never give Aspirin on an empty stomach.

g Give as much fluid as the patient can be persuaded to drink. Rehydration mixture with orange juice is best, but plain, safe water, weak tea or coconut water may be given, if preferred.

h Breast or other milk feeds should be continued in the case of babies. Older children should be given a light nutritious diet.

i Where a fever assumes a particular pattern in relation to a common local illness, such as malaria, the cause of the fever will also be recognised and what to do should be discussed. In some areas, the TBAs might be made holders of malaria presumptive treatment. They should always know where it can be obtained and how to make the sick person comfortable during a rigor.

4 **Preventing the Spread of Infection** — Explain that:

a Children, in particular, get a number of diseases which can easily be passed from one person to another through close contact and some of these are very serious. eg. those showing as rashes with fever such as measles and chickenpox; and whooping cough.

b Some diseases are spread through very small amounts of the stool of someone suffering from the disease getting into food or water, and being eaten by someone else who then gets ill.

c Some diseases are spread by insects, animals or infected objects. In areas where they are available, discuss the importance of mosquito nets for people with malaria, as well as for those not infected.

d Eye conditions can be dangerous, and discuss how they are spread.

e It is difficult to isolate infectious active children — easier to isolate the baby or a particularly vulnerable older child or adult.

f Families need to recognise the importance of immunisation for their children. Serious diseases in children, like Tetanus, Diphtheria, Poliomyelitis, Whooping Cough, Tuberculosis and Measles, are preventable if vaccines are given at the proper time. A suggested vaccination schedule is as follows:

Age	Vaccines	Target Disease
1st week	BCG	Tuberculosis
3 months	D.P.T. 1st dose Polio 1 dose	Diphtheria, Whooping Cough, Tetanus
4 months	D.P.T. 2nd dose Polio 2nd dose	As above
5 months	D.P.T. 3rd dose Polio 3rd dose	As above
9 months	Measles	Measles

The TBA should confirm that this schedule has been followed: if not, she should remind the parents of the necessity for the immunisations.

17 Simple First Aid and the Prevention of Accidents

Children and elderly people are particularly prone to serious accidents and many things can be done to make the home and its surroundings safer.

Ask the TBAs to look at their own neighbours' homes and surroundings for accident hazards and, if possible, to do something about them. Invite them to describe their findings, together with an account of what they did, or think might be done to reduce the risk of accidents in their neighbourhood. The discussion may also include comments on the reactions of the families they visited (including their own) to ideas of accident prevention.

Although the ways in which the accidents may occur vary in different parts of the world, the types of accidents affecting children are remarkably similar, viz:

- Choking and suffocation
- Burns
- Falls
- Poisoning
- Drowning
- Deep cuts
- Electricity
- Animal/traffic accidents

As far as possible, prevention and what to do if the accident happens should be taught in a practical manner. After a general discussion of prevention, the most effective way to teach first aid is through simulation or vivid description, or a combination of both.

Particular local hazards should be assessed. The teaching should then concentrate on the most likely accidents, and ignore those that are not of current significance. When circumstances change, the teaching must change. (For example, suffocation by plastic bags is a relatively new danger in many areas but a growing one. If there is no electricity in a village there is no point in discussing accidents relating to it, but when electricity reaches that area, teaching about its dangers and how these are prevented becomes a priority.)

A few Basic Points in the Prevention of Accidents

Young children are natural explorers and have no understanding of danger. They should be allowed to acquire skills of balance and agility and the safe use of tools, etc., but until proficient must be guarded against the dangers of inexperience.

1 Even young children can climb. Keep dangerous objects and substances in places they cannot reach, eg.
   - Medicines
   - Kerosene
   - Insecticides
   - Caustic alkalines
   - Strong acids
   - Lighted lamps
   - Sharp knives
   - Plastic bags

2 Never put anything poisonous into a bottle or tin that has been used for food and is recognised as a food container.

3 Teach children at an early stage to guard against local poisonous plants, particularly seeds.

4 Be alert against the dangers of 'things' catching fire – never use open lights or place lamps in insecure positions – beware of fires without any protection. Always guard children from an open fire.

5 Never leave hot objects, boiling liquids, or boiling steam where a child can come in contact with them. Always keep a watch on the young child when cooking is in progress.

6 Remember that a child who falls in head-first can drown in a very little water. Protect young children from tanks, ponds, wells, cesspools and containers of stored water in the home.

7 Young children explore everything with their mouths, and small objects if swallowed will cause choking. Anything that keeps air from the nose and mouth, for example a plastic bag, will cause suffocation.

A few basic points in the provision of first aid that a TBA should know or be able to act upon either herself or by telling others what to do.

1 CHOKING

a Slap smartly between the shoulder blades three or four times. This should dislodge the object which is stopping the air from entering the lungs. Repeat, if not successful the first time.

i In the case of a **baby**, do this while holding the baby upside-down by the legs.

ii If a **child** is choking, lie him head downwards over the first-aider's knees.

iii If an **adult**, the slap may be given with the patient in a standing, bending-over or sitting position.

2 SUFFOCATION

Remove the cause of the suffocation and, if breathing has stopped, give mouth-to-mouth resuscitation.

A typical cause of suffocation is illustrated in the following example:

An increasingly common accident in countries where plastic bags are entering the market is suffocation, due to children putting the bags or plastic pieces over their faces. Since to act this, even using a bag with holes in it is too dangerous, the situation can be vividly described by the trainer as a true incident. The scene should be set, the accident acted or vividly described, followed by an acting of the immediate action required. After this, the situation in which the accident occurred should be altered from a dangerous one to a safe one.

A two year old is sitting on the floor, playing with some plastic bags. The child places a bag on the head as a cap, preens and suddenly pulls the bag over the face. As the child takes a breath this moulds tightly and suffocation will follow, unless someone is immediately to hand to pull off the bag, either before or immediately after it moulds. The trainer should now ask the TBAs what should be done, hopefully getting a reply like the following which should then be acted out:

a Luckily a bystander sees what the child has done and quickly pulls the bag off.

b On another occasion, no bystander is immediately to hand, the bag moulds to the child's face. He keels over. Someone passing by pulls the bag off and begins 'mouth-to-mouth' breathing. Did they arrive in time? (This should be linked with the teaching related to the baby who fails to breathe at birth — the technique is the same, except that because the child is bigger the breath does not need to be broken into three puffs). When breathing has been restored, the child is placed in the recovery position.

NB The trainer should provide this type of story description of each common accident when teaching its prevention and first aid. Whenever practicable the actual situation should be simulated.

3 BURNS and SCALDS

a Hold the affected area under the cleanest available cold water for at least ten minutes, or until pain has ceased.

b Remove anything tight near the affected part, because of likely swelling.

c Cover the area lightly with clean, thin (white) cotton material (e.g. muslin) to reduce the risk of infection.

d **DO NOT** apply oil or fat, or prick blisters. To avoid confusion mention this only if it is a local practice.

e Severe burns or scalds produce shock. The patient should be treated lying down. Medical aid must be sought, as soon as possible.

f Give rehydration mixture (as used for diarrhoea) to replace the high fluid loss from a bad burn. (Make sure the casualty is conscious before giving anything by mouth).

g **If a casualty is on fire**, use the nearest available method of putting out the flames:

i Tell the patient to lie down to reduce the risk to the face. Rolling on the floor will help to smother the flames.

ii Any large piece of woollen or heavy cotton material,

e.g. blanket, rug, wrap, can be used to wrap tightly round the casualty, to exclude the air and to smother the flames. Teach the TBA how to hold this in front of her as a personal protection if she has to go through the flames. (Warn against the use of any synthetic material).

h Reiterate that anyone who has been badly burnt needs medical attention, as soon as possible.

4 POISONING

a Give milk or water to dilute the poison.

b Lie the person down — if possible, find out the cause of the poisoning.

c If there are **no** signs of burns in the mouth from a caustic substance, give the locally-used emetic, e.g. concentrated salt water.

d If symptoms are severe, medical aid should be sought, as fast as possible.

5 DROWNING

a Place the victim in the 'recovery position', e.g. three-quarters prone, with his head on one side to allow for fluid drainage from the mouth, top leg bent at the knee and the front arm bent at the elbow.

b Clear the airway.

c Give mouth-to-mouth resuscitation after clearing the air passage, for up to an hour if necessary.

6 DEEP CUTS

a Lie the person down and raise the injured limb.

b If the bleeding is severe, press firmly on the wound using a pad or clean cloth. Keep pressing until the bleeding stops, perhaps for 10 minutes.

c If appropriate, press the edges of the wound together.

7 FALLS

a When a bone is broken it must be kept still. Do not move the person until the limb is secured.

b If the head is knocked and the patient is unconscious:

- Clear the mouth and nose
- Loosen all clothing
- Allow maximum movement of air
- Turn the head to one side with the patient in recovery position
- Cover lightly to maintain normal temperature
- **Do not give anything by mouth**
- Seek medical aid
- Avoid noise and disturbance as far as possible

8 ANIMAL BITES

a Clean the wound with soap and water

b Put any available skin antiseptic on the wound

c Leave the wound open, if it is reasonably dry. Cover lightly if necessary, but do not exclude the air.

d Anti-tetanus injection should be given if the person is not protected already.

e Rabies

i If the bite came from an animal such as a dog known to have rabies, then anti-rabies injection should be given as a matter of urgency; there is no alternative treatment.

ii If it is not known if the animal has rabies, then in the case of a dog it should be observed, and if it shows any signs of rabies (frothing at the mouth, failing to eat, shakes or non-stop barking) the dog must be destroyed and the patient taken to hospital immediately.

iii If the animal cannot be observed then an anti-rabies injection should be given quickly, as a precaution.

(In the general discussion on the dangers of rabies, the TBAs should be told about the nearest health centre for obtaining serum).

NB In many cases there will be more competent First Aiders who should be called in emergencies. However, the person on the spot must act first and

if this happens to be the TBA, she must be able to act competently.

In some areas there will be nobody but the TBA and in this case the teaching given on this subject may need to be strengthened.

All First Aid should be taught as simply and realistically as possible. Demonstration and practice will need to be repeated a number of times. Towards the end of the teaching sessions the trainer should arrange to simulate a common accident at a time when the class is otherwise occupied. This will test their ability to do the right thing in an emergency.

18 Family Planning

In countries where the government has recruited TBAs as official family planning workers, more specialised training will be required.

Traditionally, in many countries, a number of TBAs consider themselves to have a role both in curing infertility and in preventing unwanted pregnancies within marriage. Their ideas on family size are generally identical with those of the rest of the local community. But if taught properly they can be a crucial part of national fertility control.

The teaching needs to effect:

1 A change of attitude, if required, so that the TBA is willing to co-operate with the government's population programme and encourage others to do so.

2 A recognition of the importance of well-spaced pregnancies for the mother's health and an acceptance of the fact that such planning is now possible.

3 An acceptance of the idea that small healthy families are more desirable than large families with many infant deaths.

4 The ability and willingness to describe to parents what help is open to them to plan their families, either by referral to another worker or by personal explanations of the simple facts about available methods of contraception.

Teaching about family planning can begin at the start of the TBA's training when the group is discussing how the sperm and ovum join to form the baby. Where no baby is desired, family planning methods are used to keep the sperm and the ovum apart. The trainer can then encourage a general discussion on existing village methods of contraception and local beliefs, e.g. a period of sexual abstinence after birth.

The ante-natal period provides a time to teach family spacing. It can be helpful for the trainer to talk to the mothers being examined by the TBAs under her guidance, thus demonstrating to them how to do it. Another appropriate time for such teaching is soon after delivery.

Towards the end of the training period, more time should be devoted to teaching and learning specifically about family planning. It may be helpful to begin by asking questions on family size, with each question growing out of the last answer, e.g.

Q What happens when a mother keeps on having children, one after another?

A She won't be able to look after them properly.

Q What may happen then?

A They'll get ill.

Q Could anything have been done to prevent this?

which can lead into a discussion of the value of family spacing to: the mother, the father, the children, the community, the nation and how to space.

Discuss the inadequacy of indigenous methods and the danger to the woman's health of such practices as inducing abortion by inserting a twig, bunch of dried grass, bottle or other object, into the vagina or taking harmful herbs. Describe and demonstrate materials used in the safe preventive methods of contraception commonly utilised by the health care system in the area.

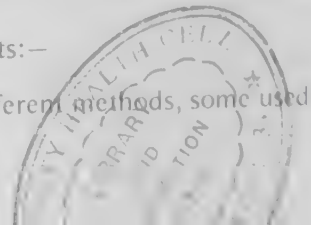
Some TBAs see family planning as a threat to their livelihood as it affects the demand for their services. It is important to understand their fears, so that they can be motivated to support official family planning programmes. Once they appreciate the necessity for family planning they can often be persuaded to act as depot holders. Rumour has played a large part in the non-acceptance of family planning programmes.

The TBAs must know in simple detail about the different methods of contraception, so that they can help to break down the damaging rumours, rather than add to them.

Teach them only about methods available in their area, e.g. the condom, the contraceptive pill, intra-uterine devices, foams, creams and jellies, the diaphragm, Depo-provera injections, abstinence. They should refer queries for further information to the community health worker who should have a more detailed knowledge of the more complicated methods.

Emphasize the following points:—

1 There are a number of different methods, some used



by the woman and some by the man.

2 One method may be more suitable than another for a particular family, and the qualified health worker will help the family to make the best choice.

3 The most important factor is that once a method has been chosen it must be followed faithfully all the time, if pregnancy is to be avoided – i.e. the pill must be taken every day, the loop must stay in place, the condom must be used at **every** intercourse, injections must be taken at the correct time. This has implications regarding supplies.

4 With advice, one method may be exchanged for another, and when it is stopped, the woman may expect to become pregnant within a few months. Female fertility is not affected by family planning.

Discuss the permanent methods separately so that no confusion arises. Explain the procedures in the simplest language with little detail. It is generally sufficient to say that the operation for the man is very easy and just stops the sperm, so that no baby can result from intercourse. It is important to stress that his pleasure is in no way affected. He will perform the sex act exactly as before. (It may be wise to explain that he should wear a condom for 1 - 2 months after the operation, until all existing sperms have been discharged). When talking about the tubectomy, it may only be necessary to explain that the woman's tubes, down which her egg passes, can be cut so that she cannot have a baby.

Always link family planning teaching to the desire for healthy, happy children who have enough to eat to be strong.

In some areas, the TBAs play an important part in the preparation of the adolescent for adulthood. At this time their attitude to family size and spacing of children may make a deep impression on the young.

19 Village Sanitation

It is unlikely that TBAs will be expected to teach the community how to construct safe latrines and wells, but they will have opportunities to encourage both individual and co-operative efforts to provide such facilities.

Discussion of village sanitation should always be related to the TBAs' own situation. It should aim to convince them of the dangers to health of defecating just about anywhere, with the risks of contaminating food and water. They should be encouraged to set a personal example of living as safely as possible within the constraints of their own circumstances. Any discussion on village sanitation must be related to their own or their neighbours' situation.

The week before it is planned to discuss a safe environment, ask the TBAs to look round their own communities and be ready to talk about their local water supply and the ways in which excreta is disposed of.

1 **Latrines**

Stimulate discussion by talking about where people in the village defecate. This can be followed by questions like "What are the real dangers of stool being passed just anywhere?" At this point it is most opportune to link this question with discussion of the diarrhoeal diseases and worms, and the contamination of food and water.

A discussion could then follow about latrines as a safe place for defecating. Encourage the TBAs to discuss the local situation e.g. how many families have latrines? Is there a latrine in the school or other public building? Follow this by discussing local ways in which more latrines can be constructed.

2 **Safe water**

Discussion on clean and safe water can be based on the local village sources already looked at by the TBAs.

"Are the sources safe?"

If not, what can be done to make them safe? e.g. if the water comes from a pond it is not safe for drinking. To make it safe it should be boiled. This can be a problem in areas where fuel is short. If this is so, the next step is to talk about other possible sources of safe water in the area. If there are none, direct the discussion towards community action that might be taken to obtain a safe supply. The TBAs, who are now better informed, could be expected to be active in influencing local opinion and local authorities to move towards establishing a safe water supply.

3 **Drainage**

If there are communal water points in the village, base discussion of drainage on the state of the ground around them and on the importance of considering adequate drainage for spilt water, especially when village water schemes are being installed. What happens to waste water in the home should also be considered.

The following points are important:

a Water is a precious commodity and the maximum use of it is necessary.

b Waste water can be channelled to wherever it is needed e.g. to a vegetable patch, by use of a drain or soakage pit (i.e. the waste water is thrown into a large hole dug near the plants to be watered and filled in from the bottom with layers of small and then large stones.

c Water left lying on the surface of the ground encourages the breeding of mosquitoes and increases the risk of malaria.

4 **The safe disposal of rubbish**

Begin by discussing what people do now with their rubbish. Are these methods of disposal safe? Waste thrown near a river or water point, or piled up to be scattered about by animals or blown by the wind is a danger to health.

Rubbish may be dealt with safely in a village using any of the following methods:

a It can be **layered** in a deep pit i.e. a layer of rubbish is completely covered by a layer of soil, before the next layer of rubbish is added. This continues until the rubbish reaches about two feet below the top, when the pit must be filled in with soil, and a new pit dug.

b Rubbish may be burnt in a pit or incinerator above ground. Great care must be taken to observe adequate

fire precautions (see prevention of accidents, in First Aid section).

c Home rubbish that is awaiting removal to a safe place of disposal should be kept in some form of container with a firm cover.

If a sanitation worker is available the trainer may be able to consult him: if he can teach he may even take the class himself.

20 Co-operation with other Health and Community Workers

Before discussing how the TBAs can co-operate with other health and community workers, it is necessary to recognise that an atmosphere of local co-operation is needed for the success of the training programme itself.

As mentioned in the Introduction, it is important, before any local plans are made, to discuss the proposed training programme with the local people who use the services of the TBAs, and with the TBAs themselves. Finding out their views and, as far as possible, fitting in with them provides a wise basis for success. The interest and co-operation of official and unofficial health and community workers and village members of local government are equally necessary. People living in the same neighbourhood do not always see things the same way. Frank discussion of differences of opinion, if they exist, is the most likely way to foster future co-operation. Lack of co-operation usually results from misunderstanding.

In the past, in many areas, there have been tensions between the local government midwife and the TBAs. It has been proved that, when these midwives are prepared as the trainer of the TBAs, this distrust is replaced by new positive attitudes on both sides. The actual training period should be seen as part of a continuing joint service to the mothers and children of the neighbourhood. The TBAs who live on the spot are then prepared to act as the extended eyes and hands of the midwife, knowing they can rely on her continuing support and guidance as required.

Co-operative attitudes are learnt from example more than from talk. Throughout the training period, every effort should be made to foster them by involving other health community workers in the teaching when appropriate — e.g. The Agricultural Extension Officer might share in discussions on nutrition; the Health Assistant might help with the first aid teaching; the Village Headman should be brought in to discuss the methods by which the TBAs should make emergency referrals. Any sanitation workers who might come into the village should feel free to come and discuss the environmental problems and might be asked to take the TBAs round the area looking at ways and means of improving the situation. As a result of this co-operative activity the TBAs will have experienced an example of positive co-operation.

The use of role-play is often helpful in aiding a group to look at the behaviour of themselves and others in a variety of situations that can be dealt with in co-operative or unco-operative ways. This may lead to a discussion on leadership and the TBA's wider participation in community health activities. Leadership is usually seen to belong to the person who is a trainer or teacher or to someone in a position of influence. Discussion on leadership should help the TBAs to see that successful leadership **shifts** according to the problem at hand and who has the most relevant experience and skills to help solve it, rather than remaining with a permanent leader.

Any discussion on leadership should include a consideration of the TBA herself as a leader. TBAs are natural leaders in their community especially when it comes to the health of women and children. This should be encouraged and the knowledge they have about health promotion should be strengthened.

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